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NEXT
GENERATION

Jackie Chan's PlayStation debut pg. 82

The world's **#1** computer and videogame

July 1998

Color Game Boy
full specs inside!

EA Sports redefines boxing with

Knockout Kings

Project X
Key details confirmed on VM Labs' DVD console

volume four
43

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Reviewed
StarCraft • Spec Ops
Forsaken • Bushido Blade 2
Banjo-Kazooie • Tenchu
33 new games reviewed

It's in the game

Once upon a time there was nothing more likely to create a gameplay disaster than an official license. A lazy interpretation of *Batman Returns* famously almost sent Acclaim to the grave in 1996, and *Next Generation* has lost count of the number of movie licenses spuriously attached to games in the 1980s.

Times do change. With the advent of key quality titles from the likes of Acclaim, Westwood, and Nintendo, the videogame license is making a comeback. As graphics become ever more realistic, it's possible to produce games with easily recognizable characters (witness the superbly rendered Brosnan in *Goldeneye*), and as the gaming platforms power up to 64-bit and beyond, they can offer a more cinematic action experience than ever before.

As the bar is raised on the licensed game, *Next Generation* looks behind the logos and the merchandise to bring you an in-depth report on the how's, why's, and wherefore's of the licensing game, starting on page 38. Also in this issue we introduce the most comprehensive (and license-packed) boxing title ever — EA Sports' *Knockout Kings*. The first punch is thrown on page 54.

NEXT
GENERATION

NEXT GENERATION

July 1998

The science of game design

At the age of 17, Mark Cerny created the classic Marble Madness. These days he runs Universal Interactive, helping to oversee the creation and testing of Insomniac's Disruptor and Naughty Dog's Crash Bandicoot series. He claims to have game design down to a science, and considering that Crash is one of the few Western games to ever become a smash hit in Japan, he may just have a point

Cover: Knockout Kings

EA Sports has put together the best boxers in history for its latest game. So will it be another Madden, or another Madden?

The licensing game

Licenses ruin games, right? Wrong. An exclusive report on the logos and names that make the difference in your gaming experience

Intelligence
Sega readies Dreamcast • VM Labs brings Project X to DVD • Nintendo has problems with a successor to N64 • But Nintendo does have a new Color Game Boy! • Plus the usual columns
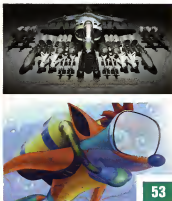
Alphas: 24 new titles in the works
Lots of new games in the works these days, including Knockout Kings, Crash Bandicoot 3, Jackie Chan's Stuntmaster, Daytona 2, BattleTanx, Siler's High, Creatures 2
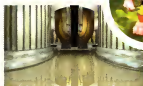
Finals: 33 new games reviewed
Welcome to **Next Generation**'s newly expanded and revised reviews section. Checked out this month: Bushido Blade 2 (PSX), StarCraft (PC), Banjo-Kazooie (N64), and more

NG Index

Welcome to the **NG Index**. Each reference is to the first page of the story in which the game, company, or name appears.

TEAM UP &

*"don't outrun
me Sully ve
got a date with
the endzone"*

Thorn

commando Thorn sees
his chance to be a hero

*"shake your
boots commados
I need cover
fire here"*

Sully

heading upfield ball in hand
Sully realizes she's target #1

Thorn

Sully

PsychoCat

MadMac

Malcomb

Tinero

+ 32%

Teams lead by Malcomb
just rolled in PsychoCat
Sully securing the game for OUR team!

4 games in all
multiple arenas   10 minute matches   fast & fierce
many ways to play   one way to win: teamwork

Capture the Flag
the name says it: capture and hold as
many flags as you can for as long as you can

BaseTag
score points by destroying enemy
base stations while defending your own

Team Deathmatch
hunt the other team to rack up kills,
then protect weakened teammates
or you'll be overrun

TALK IT UP

Score: 3
Red
Tinero   1-0
Ferret   1-0
JimG   1-1
Malcomb   0-1

Score: 2
Blue
MadMac   1-0
Sulty   0-2
ThorN   0-0
PsychoCat 1-0

Score: 0
Green

Score: 0
Gold

◄ 1   TELEPORT   7:00

"I'll drop a combat drone to cover our flank"

Psycho Cat

her last kill forced a tumble now
PsychoCat's about to draw fire

"pound it up the right side you guys I'm just about wasted"

MadMac

fresh from frying one Ferret
MadMac takes heat for the team

Formulas, rules, analysis, and exhaustive play-testing. Not the most glamorous ingredients of game creation, but nevertheless crucial to success — at least so believes Universal Interactive Studios' Mark Cerny. And with sales of the *Crash Bandicoot* games in the millions and rising, he's tough to argue with ...

The science
of game
design

Mark Cerny believes that Universal Interactive Studios is the best secret in the game business. He may be right. The success of the *Crash Bandicoot* series, especially in Japan, where gamers are ordinarily disdainful of Western-produced games, is often dismissed as merely a footnote to the larger PlayStation story. But there's more to Universal than having the right game on the right platform at the right time. The combination of such creative talent as Naughty Dog and Insomniac with the analytical, gameplay-by-formula methodology of Cerny and his Universal cohorts hasn't produced a *foo* yet.

Cerny is at pains to credit his colleagues and stresses that it's been a team effort all along. But it's his vision that's led the way, and Universal is just the latest chapter in a glittering videogame career. Having started studying at U.C. Berkeley at the age of 13, Cerny quickly devoted large chunks of his time to both playing and programming games. After being interviewed for an arcade games toy book (his speciality was Williams' *Defender*), he quit his studies and got a job at Atari, where he worked on *Major Havoc* and, at age 17, created *Marble Madness*. He then jumped ship to Sega and spent three years in Japan working on Master System games before returning to the U.S. to set up the Sega Technical Institute, which went on to produce all of the *Sonic* sequels as well as titles like *Dick Tracy* and *Kid Chameleon*. Next he joined Crystal Dynamics as the first technical employee and worked on *Crash 'n' Burn* and *Total Eclipse* before being asked to found the interactive division for Universal Studios in 1994.

The results so far? *Disruptor*, the *Crash Bandicoot* series, and the upcoming *Spyro the Dragon*. **Next Generation** met with Cerny on the Universal Studios lot in Hollywood, California.

Out of Silicon Valley and far away

NG: When Universal hired you in, did it have any set ideas about what it wanted you to do?

Mark: When I arrived, Skip Paul, who was one of the executives running Universal at the time, said the most amazing thing. He said, "Take six months and just think about what it is that you want to do." At this point we could have done multimedia, I could have worked with interplay, we could have done games based on the movies and TV shows that Universal creates, but in the end I decided on traditional videogames.

NG: This was back in 1994 at the height of the "multimedia boom." The world was hailing Rocket Science as the next big thing, and the race was on to produce the first real "interactive movie." With all of Universal's resources at your disposal, why not enter this race?

Mark: It is ironic, but my job was made possible by the excitement in Hollywood concerning multimedia. Universal's motivation was the coming multimedia boom, which I believe was also the motivation for DreamWorks Interactive. And sure, the vision three years ago was not only that games and movies would converge, with the games using Full Motion Video to tell a story, but also that these stories would change based on user actions and preferences.

When it came down to it, though, I didn't understand the appeal of such a thing. The market didn't look hungry for this kind of game, and I had no idea how to make one! So I opted for mainstream games, based on the belief that "interactive movies" wouldn't go anywhere, and I was right. Of course, I also thought the World Wide Web and internet excitement would quickly fade!

NG: You went to the complete opposite extreme. With *Disruptor* and *Crash Bandicoot* — a first-person shooter

and a cheery, mascot-based, animal platformer — you couldn't have picked more mainstream, traditional genres.

Mark: I believed that our best chance of success was to choose a very large genre with a known consumer base and then take the time and money to craft a product that could do well. I've worked at too many companies that have had financial problems to ever want to ignore the financial reality of making games

NG: So the fact that you're in Hollywood is irrelevant?

Mark: Not at all. We've found out that in Hollywood there are tremendously talented, creative people whom you can work with for not too much money. So the philosophy that we developed was not to make Hollywood games but to work with the tremendous talent pool that Hollywood provides.

Besides, I decided that I'd really like to see what game development could be like in the absence of Silicon Valley pressure.

NG: Silicon Valley pressure?

Mark: The most famous example didn't happen to me personally, but I was at Atari when some poor programmer was given six weeks to make a game based on the movie *E.T.* because independent of quality, it had to be out by Christmas. The cartridge ended up having the interactive play value of a brick.

Another example: in early 1990, I was starting up the Sega Technical Institute. Now, the first few months are vitally important; find the right people, put them in the right structure, and so on. However, prior to hiring anyone, I was given five months to do a game based on the *Dick Tracy* movie coming out that summer. It took seven months, the stress nearly killed me, the movie did poorly, the game sold poorly, and the group got off to a really bad start because the focus was on this one damn game and not on building a company with a future. Ouch!

That's what Silicon Valley pressure can be like.

Testing, testing …

NG: So what's the secret of Universal's success so far?

Mark: Primarily, I've been very lucky to be able to work with development groups as strong as Naughty Dog and Insomniac. But additionally, Universal is set up differently from traditional game companies. As I mentioned previously, I wanted to get away from the typical Silicon Valley pressures.

I've been able to take two years on every project if it's needed it. Our budgets are definitely above the norm for the industry. We've been able to kit up all of our teams with Silicon Graphics workstations and Alias. There's been no one demanding that we release a certain number of products or hire a certain number of people in a year. We have several producers working on our games with international expertise from all over the world. And the final component is that Michael [John], the producer at UIS, and I have been able to come in and spend up to six months working on a game towards the end of its development.

This is when the development team that has created the product is dog tired and is losing the ability to ... well, they become too close to the product. At this crucial point we've been able to come in, add some

fresh energy, and significantly strengthen the work they've done

NG: Can you offer an example?

Mark: The success of the original Crash Bandicoot in Japan can be traced back to one of our producers, a man named Shuhei Yoshita, who took the original Crash to real Japanese consumers, who wrote the most amazing things. [Consults thick wad of Japanese test reports].

"Basically, I feel and I died. Instantly. The game consisted only of levels where I wanted to give up before I'd reached the end." Later on this same gamer says, "This is typical of Western games." But through this kind of player analysis, and my ability to go to Japan and watch

Japanese kids play and actually talk to them face-to-face and get their honest opinions, we gained a slight perception that the game was too hard. So I then spent six months tweaking Crash Bandicoot, moving boxes and enemies, using Naughty Dog's tools, and the end result was that we pulled it off — Crash 1 was Japan's number one-selling, U.S.-developed game, ever. Last year this record was broken by Crash 2.

NG: So you take six months at the end of a project's development for fine-tuning and tweaking. What is it that you personally bring to the party during this final period of development?

Mark: Naughty Dog and I really complement each other very well. And really, to some degree, our success can be attributed to left brain and right brain working in harmony. I am the left brain. I myself have very few ideas concerning challenges, enemies, and creatures. So what I'm doing when I work with these groups is filtering it down and putting it on an analytical base that I believe will provide the necessary core gameplay.

NG: Left brain? Right brain?

Mark: The right brain is creative, artistic, inspired. The left brain is analytical, scientific, empirical. What I do is very left brain; I can give you a number for anything and

A game's fun is a gestalt that comes from the entire experience. You can't attribute it to any one aspect of the game

a justification that might or might not be b.s. [laughs]. How many challenges should there be on a level in Crash Bandicoot? How many of these challenges should be enemies? How many should be jumps? How long should a level be if you could just ignore the enemies and walk it?

NG: So you take someone else's right-brain creative, artistic work and then shape it and tailor it using left-brain, formulaic, and analytical principles. Can you offer an example?

Mark: Let's talk about Crash 2. Crash 2 was about the amazing animation and spirit of the lead character and about the balance of the game. The animation is almost entirely the product of Jason Rubin, the president of Naughty Dog.

The balance originated with me looking at the macro game design, the distribution of all the levels — how many of them are into-the-screen levels, how many of them are 2D levels, how many are levels where you find yourself on the back of a polar bear — and then on a micro game design level going in and trying to keep the pacing absolutely consistent on every level.

NG: And how do you do this analytically?

Mark: By creating a rule for how many feet of level there should be between checkpoint boxes. And how many enemies there should be. And then following up with consumers to check that the game was challenging but didn't become frustrating. The core theory on frustration that I used is that every player has 20 minutes of patience to finish a level. And if you see someone taking 30 minutes that's not so good, and if they take 45, well, that's a problem. We even developed techniques to move the player along the gameplay. I'm sure a few players noticed that the number of checkpoints in Crash 2 would double if they were doing poorly and that some of the challenges would become easier also.

I figured out the numbers and then did it by the numbers. As a result, Crash 2 was very consistent.

NG: Where did you get the magic number of 20 minutes?

Mark: Japanese and American consumer testing [produces another big wad of report sheets]. Here's an instance of our amazing support from Sony: They not only staged huge amounts of play-testing for the game but then also analyzed the results. For example, we have a chart showing precisely how many minutes a group of players took to finish each stage of the game and how many times they died. We also have a map of the complete game, hand-created by one of our Japanese producers, with every place marked where more than three people died. So when it came time to make certain levels easier or harder, I could flip through the chart, identify a hotspot, and make the adjustment. Just like that.

NG: And after your analysis of the gameplay had revealed a need for an extra challenge, you would hand it back to the creative people to come up with a new enemy?

Mark: Right, and it was fun to see how this abstract game design would turn into real gameplay. Because I would want to put in, for example, a challenge where a player would either have to cross a pit on the left or on the right, so we needed something blocking the pit. On the graph paper I work with it's just two circles — they could have been simply pillars blocking the way. But, back in the hands of Jason Rubin and Naughty Dog, this led to the creation of the Orca, one of the game's most impressive creatures.

NG: What makes some puzzles better than others? What can make a puzzle unrewarding?

Mark: The traditional problems are either that it's too hard to manipulate the controls to do what's required or it's not obvious. I hope all of my friends on the *Gex 2* team will forgive me, but in the Haunted Mansion level, there's an enemy who throws his head at you. You can't hurt the head or defend against it — you just have to avoid it and attack the body. And on the same level there's a headless character walking around, but you can't attack his body — you have to go find his head and then attack that. This is not a consistent approach.

Now, it's very difficult to have a consistent approach

everyone's comfortable.

So this means working with simple concepts and simple layouts.

NG: What else do you say "all the time"?

Mark: I've a heard a lot of people say, "We're making a game, and it's going to be a huge success because we're gamers and we're making the game we want to play." You see them succeed at creating that game and fail in sales because they've created something that is difficult and

Too many ideas will doom a game just as much as too few ideas will

across the whole game, but we've tried. In *Crash 2*, if characters have spikes on their heads, you couldn't jump on them. If they have spikes laterally, then you can't spin them. If they had spikes all around the top and little short, spindly legs, then you could get their legs out from under them by sliding. And this was applied, reasonably consistently, throughout the game.

Formula for success

NG: So, you've discovered that Crash players don't want to be challenged for longer than 20 minutes per level. What other rules do you apply to your development?

Mark: There are a few things that I say so often around here that I'm sure everyone's tired of hearing them.

It's easy to make a game more difficult. But it's very hard to make it easier. What this means is that if a game is fundamentally fun but the players are breezing through the levels, then it's not very hard to double the enemy count. But if the source of the fun is based on the expectation of the player understanding a difficult rule set, then that's a tough game, and you aren't going to be able to bring the difficulty down to a level where

confusing. Well, the typical player is not "into" videogames as much as you are fear Wal Na or she read the manual. So if you do your consumer testing and find out that some players just don't understand what they're supposed to do or have a hard time doing it, that's your fault as a developer, not the player's fault.

NG: What else can you learn from watching players test the game?

Mark: I've learned to watch the player and notice if he is really involved in the game, whether he is having difficulties, and not to listen too much to what the player will say because it's difficult for people to objectively analyze their own play experience.

NG: What other rules do you follow?

Mark: If you want your game to do well in Japan, depending on the genre, you must keep it cool or keep it bright. But a failure to grasp this must be very frustrating for the development community. Abe's *Oddysee*, as near as I can tell, despite a tremendous marketing campaign — perhaps half the amount of the *Crash 2* marketing budget — sold less than 10,000 units in Japan. The general rule is that for a character to do well in Japan, it

reusable parts because in order to get a typical object behavior to work nicely, it will probably have to be recoded somewhere between five and 25 times. So if you have enemy A and enemy B and using them in combination results in new gameplay, do it! Keep every area unique. Yes, this conflicts with the "parts" idea — managing the conflict is extremely important. Even though you've constructed 20 or 30 levels with the same toolkit, ideally if two players discuss the game, they should be able to visualize and verbally describe every area of it. In other words, not "Did you like level 18?" but "Did you like the level with the bulls and matadors?"

NG: From an analytical perspective, how important are a game's graphics?

Mark: Making the user think that you have the best visuals as possible is extremely important because if you present well, then you are stacking the deck in your favor. Also, a game's fun is a gestalt that comes from the entire experience. You can't attribute it to any one aspect of the game. So if you have nice artwork, then you are creating a better game.

Now, if you look at it simply on a theoretical gameplay level, then better graphics may well be sacrificing some of the gameplay — but you're creating a larger, more enjoyable experience. I have a friend who claims that the best football game ever made is the Atari arcade football released in 1978, where the players are just Xs and Os. His reasoning is that the designers were unobstructed by graphics.

NG: Do you agree?

Mark: On a pure, theoretical gameplay level it is inherently easier to negotiate an environment from an overhead view than it is from a view inside the

If you do consumer testing and find out that some players don't understand what they're supposed to do ..., that's your fault as a developer, not the player's fault

needs to be appealing and attractive. Abe is a very interesting character and an example of brilliant Hollywood production design at its best, but you can't dodge the fact that Abe has his mouth sewn shut. Other examples include *Killer Instinct*. It was a gorgeous game, but it went over to Japan and was perceived as being too dark.

NG: From your analytical perspective, what is the best way to design a game from the ground up?

Mark: Pick a genre. Take a stand. You need to try to reinvent or redefine your chosen genre. Your concept may be very simple, but you'll need to follow it faithfully for a year or so before you know if you've chosen well, so pick carefully! *Crash*'s goal was take traditional action/platform gameplay and flip it into the screen, based on the belief that this would create more excitement. *Spyro*'s goal was to base a free camera action game primarily on the interaction between the player and the enemies, which I saw as the one big missed opportunity in *Mario 64*.

Build a single level that works. What are the challenges? What are the player abilities? These are yin and yang to each other because the player ability to jump implies things to jump over. Two separate attack buttons imply enemies that are vulnerable to one or the other. Keep your single level very simple. If it is easy to play and still fun, you're doing great, as you can always make it harder later. Now, build the rest of the game. Build from

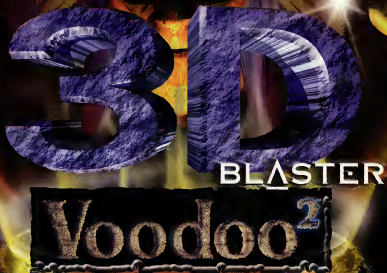environment. However, it's a heck of a lot more fun to feel that you're in the thick of the action.

NG: Can this theory of gameplay be the result of creative/analytical (right brain/left brain) work in reverse? Can you look at all great videogames, and underneath the creative genius, analyze the formulas and mathematical rules that make them "fun" to play? Could we dissect *Die by the Sword*, say, and isolate what makes it work?

Mark: I don't believe that the reasons for a game's success or failure can be analyzed. And I don't believe that you can analytically create a hot game. However, if your levels are laid out in accordance with some core philosophy, it really helps. In the *Crash* series the philosophy has been, "Create simple challenges, use them in combinations, keep it very fresh by never using the same combination twice." For *Spyro the Dragon*, the philosophy is, "Gameplay is enemies in a crafted environment. By crafting the environment into a different shape, the gameplay changes."

NG: So the key is having left brain and right brain working in harmony?

Mark: Right. And you've got to remember that while right brain inspiration is necessary to the process, too many ideas will doom a game just as much as too few ideas will. You have to kill most of the great ideas and make sure that the ones that are left support core gameplay.

ng

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While Sega and VM Labs ready new consoles,
Nintendo stumbles with N2000
but offers, finally, **a Color Game Boy**

INTELLIGENCE

News of the world as we see it

VM LABS CONFIRMS
KEY DETAILS ON PROJECT X

VM Labs releases its strategy, and it's DVD

A t long last, VM Labs has officially confirmed that Project X will be a DVD-based system. But instead of creating a game console that can also play movies, the company is licensing Project X technology to consumer electronics hardware manufacturers like Goldstar and Matsushita, who will, presumably, sell movie playback systems that can also play games. Because DVD is in its infancy, VM Labs hopes that Project X-enhanced DVD players, which should start shipping in the first part of 1999, will have a far greater market penetration than traditional consoles, which are estimated to be in about 33% of American homes.

The Project X technology, which is composed basically of one massive multiprocessor chip and some RAM, is powerful enough to serve as the MPEG decoder in Digital Video Devices. Because it is a one-chip solution, it's also cheaper to manufacture than current MPEG decoding hardware. So by licensing Project X technology, consumer electronics companies will theoretically be able to offer more — movies and games — for less, although the cost of controllers and pack-in titles will likely bring prices back up slightly. Project X-enhanced DVD players will also be upgradable in some fashion — CEO Richard Miller mentioned Internet access and video telephony as two

VM Labs is a great name for a development company, but it doesn't quite roll off the tongue. Expect a new name for the technology soon

potential future applications

Although the business model seems like a brilliant back door approach to finally realizing the dream of a "do everything" set-top box, questions remain. At the press conference announcing the strategy, **Next Generation** was disappointed to hear VM Labs officials talking almost as much about edutainment and education applications as they did about games. Edutainment and education are fine goals, but they didn't help 3DO or CD-i sell any units, and in fact they turned off many potential developers and consumers who were worried that the systems weren't serious game machines. Still, it's hard to imagine anyone, given the choice between two equally priced DVD players, not

buying the one that could also play games. And if a platform exists, games will be developed for it.

The other big question is power. The Project X media processor is certainly fast enough to decode MPEG — VM Labs claims it can perform 1.5 billion calculations per second, a significant improvement on current media processors — but how it will stack up against the next generation of consoles is an unanswered question. Because Project X is basically one giant processor, without dedicated 3D hardware, it will be up to developers to see how much they can squeeze from the chip, so it is likely that the first generation of software for Project X will be greatly improved upon as time goes on. Because of this

unique architecture, it's also likely that developing for Project X will be more difficult than for PlayStation or Katana. VM Labs has committed to offering an unprecedented level of developer support, especially in the area of 3D development libraries, which should mitigate that difficulty. (According to developers **Next Generation** has spoken to, the development tools VM Labs has provided are "amazing.")

To further encourage development, VM Labs has announced that while it will check every program for compatibility before it adds the copy protection, it will not screen for content. Like the PC, Project X will be a totally open development platform from a content perspective. But unlike the PC, there will still be a royalty structure. That's where VM Labs is hoping to make its money, although the company says its policy will be more liberal than Sony, Sega, or Nintendo's. So far, third-party interest has been high, both among newer companies and established developers, and dev kits continue to ship to locations across the globe daily.

In theory, Project X (the company has yet to announce the final name) is nothing short of brilliant. Achieving a massive market penetration with a gameplaying platform could revolutionize the entire game industry. And we are certainly

holding off on additional DVD purchases until we can get a Project X-enhanced system. Still, unless the platform can deliver great games regardless of great edutainment or multimedia), **Next Generation** is worried that the

ability to add interactivity to DVD and other Digital Video Players will be relegated to the level of novelty.

While the *Tempest 3000* demo **Next Generation** saw several months ago was impressive, it's not exactly a game that taxes a system

Project X, by the very nature of its design, doesn't lend itself to bullet-point comparisons with other hardware, making software that much more important. We anxiously await the arrival of more final software.

STOP PRESS: GOOD-BYE KATANA HELLO DREAMCAST!

Sega prepares for the most important launch in its history

Just as this issue of **Next Generation** went to press, Sega of Japan made official what most **Next Generation** readers already knew: Katana is coming, and the specs are extremely impressive. The system, a svelte seven by seven by three inches, looks like a morph of a PlayStation, a white Saturn, and an N64. The official Japanese name — Dreamcast — may change before the machine is released in late 1999 in the US.

More impressive than the name or simple spiral logo are the specs (see sidebar). Although the raw megahertz numbers of the CPU aren't much higher than what we see in PCs today, the level of integration between the system's components, especially the Hitachi CPU and PowerVR 3D subsystem, has enabled an amazing graphics performance level, well beyond anything seen to date on consumer-level consoles or PCs. The 64-channel audio, supplied by Yamaha, is also impressive.

The Visual Memory System, a memory card with a 48x32 LCD display, which can be docked with the controller, is incredible. The potential engendered by enabling players to choose game options privately will usher in a new paradigm in the design of multiplayer games, especially sports games

Based on what **Next Generation** has seen, the Dreamcast hardware clearly lives

up to the claims Sega has made and is well-positioned to dominate in the next generation. The big question now is software. While Sega is signing up third parties at a tremendous rate, it is first-party software that will make the difference for Dreamcast.

Last month, Sega of America President Bernie Stolar revealed to **Next Generation** that Yu Suzuki would be developing a Dreamcast-exclusive product. In a company where arcade development is revered and consumer development is traditionally looked on with disdain, this is a major shift in corporate culture. For the first time ever, Sega has made consumer development, not arcade, its top priority.

Overlooked by many in Sega's reorganization, which saw the ousting of arcade-centric Hayao Nakayama in favor of Shoichiro Irimajiri, was the strategic transfer of Sadahiko Hirose from Ascii Entertainment (which is partly owned by Sega) to Sega of Japan's consumer development team. His reputation as a modern thinker is unparalleled, and he provides important product development leadership.

The softening arcade market means that arcade hits can no longer be counted on to sell home systems. Thus, it is largely through the consumer department's efforts that Dreamcast will succeed or fail.

Unfortunately, the consumer department at Sega has not had a major hit in years, and morale at the time of Irimajiri's ascension was at an all-time low. However, the arrival of Hirose, as well as — finally — recognition from the top levels that the consumer department is vital to Sega's success, has revitalized the department. Efforts are also underway to open channels of

communication between Sega's console and arcade development teams indicative of the new attitude is that one of Sega's brightest young stars, Tetsuya Mizuguchi, producer of Sega Rally and Sega Touring Car, has moved to the consumer department from AM Annex.

Overlooked in most discussions of Sega's woes is the fact that while Sega may stumble when it comes to hardware, it is still one of the top three software producers in the world (along with,

Next Generation reckons, Nintendo and Square). No change in focus this big can occur without friction, yet the effort to change is one of the most hopeful sighs **Next Generation** has seen. It's clear that not only does Sega want Dreamcast to succeed, but more importantly, it is willing to make whatever changes needed — friction be damned — to ensure that success.

Shoichiro Irimajiri makes the announcement about Dreamcast, Sega's new system with very impressive specs and more impressive graphics

17

COLOR GAME BOY SPECS REVEALED

CGB both more and less than expected

More than two years ago, the first details of Nintendo's revolutionary, RISC-based, 3D-color handheld, dubbed Atlantis, started to leak from England. Seasoned Nintendo watchers (**Next Generation** included) should have known better. When Nintendo has something that works as well as Game Boy has (it is, arguably, the most successful game machine of all time), any changes are evolutionary, not revolutionary, in nature. And the Color Game Boy is, in fact, a very evolutionary machine — with two possible exceptions.

While not a CBG title, is the first to use the 1MB cart stock made for CGB, RAM is also souped up, with 32K versus the original's 8K.

Many elements of the Color Game Boy's architecture are clear holdovers from classic Game Boy. For instance, background tiles still have a four-color palette, but now there are eight palettes to choose from. This means there will be a maximum of 32 background colors (four colors per palette times eight palettes). The total number of colors to choose from is 4,096. The maximum number of sprites is the

at a time on a horizontal line), there are an extra eight bits of variable memory for each sprite. The memory is used for things like x-y flipping, and it is expected that the extra eight bits will be for sprite scaling and rotation.

Classic Game Boy titles can be colorized, but the unit does not have Super Game Boy support. Instead, by hitting a key combination, users will be able to bring up a palette screen and assign various colors to the game. Along with Color Game Boy come two new cartridge variations. There will still be the original Game Boy cart, plus CGB compatible and CGB exclusive. Compatible cartridges will be playable on Color Game Boy or Game Boy classic but will feature full color on Color Game Boy. Exclusive carts will be playable only on Color Game Boy and will be able to tap the additional power of the system, like the faster processor, sprite scaling, etc. It is not known yet whether or not compatible carts will be able to contain Super Game Boy information.
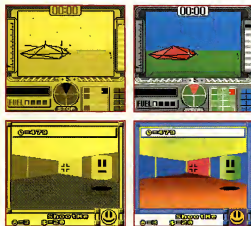
Although the new Sharp-supplied LCD screen can theoretically support higher resolutions, the current spec calls for even Color Game Boy-exclusive games to be limited to the classic 160x140 resolution. However, it's likely that custom flicker routines will be able to generate "high-res" games that run at 320x280 resolution, but with only 24 colors and at classic Game Boy speed.

Two hardware features mark the Color Game Boy as more than just a simple update. The first is an infrared communication port, which will let Color Game Boys communicate without wires. **Next Generation** expects that an IR controller pack add-on for Nintendo 64 is already in development. Second, and more interestingly, is a mysterious sound input port, which complements the headphone jack (present in the original Game Boy,

but missing from Game Boy Pocket). This, combined with a programming feature that translates from the Japanese as "mixable input sound" hints at some intriguing new input method. The processor is certainly not fast enough to do full speech recognition, so exactly what the sound input pick will do is currently a mystery

What the processor is fast enough to do, however, is 3D. The original Game Boy was fast enough to do wireframe 3D (see screens), and the double processor speed should be enough to enable flat-shaded 3D screens, using an absolute screen drawing method (with sprites being used for things like laser beams and explosions). Star Fox CGB, anyone?

Although only Nintendo will have Color Game Boy-exclusive games for Christmas, it is highly likely that several of the dozens of classic Game Boy titles in development now will be reworked as Color Game Boy-compatible hybrids. The Game Boy market has proven to be incredibly strong through 1997 and 1998 (Game Boy programmers are in big demand), and the number of projects in development should only increase with the introduction of Color Game Boy.

An NG artist's conception of what some older Game Boy titles (left) might look like on Color Game Boy (right), given the color restraints of CGB

The new Color Game Boy, in many ways, simply doubles the power of the original. The original Game Boy's processor, designed by the late Gumpei Yokoi, was based on the Z-80 chip. Color Game Boy has the exact same chip, running at twice the clock speed. The screen buffer has also been doubled from 8K to 16K, which will enable developers to use 512 background tiles at once, versus 256 for the original Game Boy. Cartridge size is greatly improved. Wario Land II,

same, 40, and like the backgrounds, sprites have eight four-color palettes to choose from. One of the colors in each sprite palette, however, must represent transparency, so sprites will effectively have only three colors. The 56-color screen originally announced by Nintendo is figured by adding the maximum number of background colors (32) to the maximum number of sprite colors (24). Although developers are still limited to 40 sprites and 10 sprites

EMULATION: HARMLESS OR LAWLESS?

As the emulation scene grows, so does confusion about its legality

Modern emulators like MAME can bring the thrill of arcade classics right to your PC's desktop, practically free of charge

E mulation — simulating the behavior of one computer on another — is nothing new: Bill Gates and Paul Allen wrote Altair BASIC by emulating the Altair on a PDP-8 more than 25 years ago.

Today, with PCs powerful enough to efficiently emulate the microcomputers and consoles of a decade ago, a huge emulation scene has developed online. Multiple emulators are now available for Apple II, C64, various Atari computers and consoles, Genesis, NES, Super NES, and other systems. But the most famous of all is the Multi-Arcade Machine Emulator, or MAME.

While nostalgia often makes one think an old game is better than it actually was (surely the biggest surprise to most entering the emulation scene is discovering just how terrible most 10-year-old games in fact are), there is no disputing the popularity of the classics. There are those lucky few who have managed to hold on to

their old systems, but for most people, emulation is usually the best way to play many of the classic games they remember — or games they never got a chance to play "back in the day."

There is no question about the legality of emulators — it is not only totally legal to emulate the workings of one machine on another, it's also practically the definition of the modern general purpose computer, as developed by Alan Turing in the 1940s.* Running Microsoft Word, for example, is functionally the same thing as making your Mac or PC emulate a dedicated Word machine.

Where things get tricky is that the software for old machines, in the form of disk or ROM images, is also freely available online. While there is some public domain software available online for computers and (thanks to the underground development scene) consoles, most of what is out there

doing so in violation of the law." IDSA has recently launched a campaign that focuses on shutting down sites that distribute ROM and disk images.

Owning a legitimate copy of a program gives one the right to do anything with it that isn't specifically proscribed by law (giving copies to

The **civil penalties** alone are heavy, **even if** the actual damages are small

is copyrighted. Many people believe that because the copyrighted computer, console, or arcade games they want to use on emulators are no longer commercially available, they can be distributed and used freely. In fact, this is not the case.

"While I understand the desire to get [images of] older games because they're no longer sold or in print," says Katharine Karg, the Interactive Digital Software Association's director of intellectual property and public policy, "the reality is that U.S. and international law states that those games are still protected by copyright law, so anyone who is distributing them is

friends, for instance), including running it on emulated hardware. But unless someone owns a legitimate copy of the game in question, using a ROM or disk image with an emulator infringes upon the rights of the copyright holder — it's the same thing as running a pirated version, and distributing it is a violation of federal law. In addition, the code for a game is different for each platform it runs on and is a separate and distinct piece of intellectual property, so owning Missile Command for the Atari 2600, for example, does not give one the right to run the arcade ROM.

The penalties for copyright violation can be quite severe. Since most classic ROM and disk images

are distributed free of charge, the potential for criminal prosecution (which can result in up to five years in jail for a first offense) is small. Still, the civil penalties alone are heavy, even if the actual damages are small (like with games that aren't being actively marketed). Statutory damages can run up to $100,000 per infringement.

It is rare, though, that a company would choose to sue an individual who used a copyrighted game illegally; usually the focus is on distributors. So how likely is prosecution or a lawsuit? The following is a typical response **Next Generation** received when we asked companies about the issue: "We're far more interested in pursuing piracy of games that are in active release, but the fact is, we do own the rights to those games, and we may want to release them sometime, so we'd certainly prefer that they weren't distributed. Would we go after someone for pirating a 10-year-old game? Maybe." It's worth noting that companies also need to be concerned about public relations, and suing fans is not generally considered good PR. Still, if an individual did not desist when asked to, the likelihood of a suit is very real — both Lucas and Disney have sued fans to protect their IP.

Note: There are some caveats to this statement involving emulating copyrighted chips like the Macintosh ROMs, but a full discussion is beyond the scope of this article

CRIBSHEET 16

Stuff every gamer
should know. This
month, motion
capture

There are some situations
where running an otherwise illegal
copy of a copyrighted program is
acceptable. The first is, of course, if
one has permission from the
copyright holder. One of the rights
copyright holders have is to waive
their rights in specific instances.
While few software companies
have formulated policies on this
issue, most of the individuals we
spoke to (including those involved
in underground development for
consoles and programmers to
whom rights for old games have

games will eventually run out, but
not for a while. If the game was
created after 1978 (when copyright
law revisions took effect), the
copyright lasts for 75 years after
publication or 100 years after
creation, whichever is longer. If an
individual holds the copyright, it
lasts for his or her life, plus 50
years. For games created before
1978, copyright lasts 28 years and
can be renewed for 47 years (this
would still protect SpaceWar, the
first videogame, if it had been
copyrighted).

or not, they're still protected by
copyright law." She points to the
recent explosion of commercially
available classic titles, most
recently EA's collection of classic
RPGs, as evidence that protection
of classic games is even more
necessary today

Many people involved in the
emulation scene are justifiably
bitter that the classic game
renaissance they helped start is
now resulting in nasty letters from
IDSA lawyers. Further, they're upset
that the only thanks they've

"The reality is that companies are buying and selling these rights all the time"

Katherine Karg, director of intellectual property and public policy, IDSA

reverted) are relatively happy to
grant permission for people to
distribute and download their
programs.

Second is "fair use." Use of
short excerpts of copyrighted
material is acceptable in things like
reviews, critical articles, and
academic research — for instance,
a professor teaching a class in
game design, who wanted to
illustrate a point from Frogger and
used MAME to get a screenshot.
This does not mean that putting a
notice that says "for educational
use only" on a web site full of
ROMs makes everything O.K. — the
burden for fair use is high, and
there is no way that distributing a
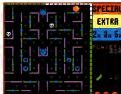copyrighted work in its entirety
could ever pass.

The third exception would be
works for which the copyright has
been vacated because the
company that held the rights no
longer exists, and the rights were
never assigned to another
company or individual. This would
be an exceptionally rare
occurrence — if the game was at
all memorable, someone,
somewhere, owns the rights. Take
Epyx. The company went belly-up
in about 1990, but the rights to its
games were assigned to Atari (and
presumably they have now been
sold to Hasbro Interactive) and the
Bridgestone Group, a company that
makes Christian software

Finally, the copyright on classic

Despite the legal realities,
many people claim a "moral right"
to distribute or play copyrighted
games, especially if they are not in
print. "I wouldn't put Ultima II up on
my site," said one emulation fan
Next Generation spoke to, "since
they just remastered it, but how is it
going to hurt EA if someone
downloads Hard Hat Mac?" While
this position does make a certain
amount of sense, Karg disagrees:
"The reality is that companies are
buying and selling these rights all
the time. There really is a viable
market, and just because a game
is not in retail channels doesn't
mean a publisher has given up on
it. Whether the games are available

received for showing companies
the existence of an entirely new
revenue stream — the back catalog
— is to be branded "pirate" and put
in the same group as the cretins
who sell bootleg PlayStation discs.
However, Next Generation hopes
that as this issue is brought to light,
more copyright holders for classic
titles will allow people to play and
distribute their classic games.
Activision's recent public release of
Zork is a perfect example of a
company giving back to the
community that helped create its
success. That's an action that Next
Generation would like to see
emulated (no pun intended)
by other publishers. [ng]

The thrill of playing classic games right on your modern PC is alluring
— but without permission, it's a violation of the law

Exactly what is motion capture?
Motion capture has been around
since the '80s. It is the process of
capturing the movement of a real
object and storing it in a
database to be later mapped to
computer-generated objects.
Lately, games and films such as
Titanic have used mo-cap to
create synthetic character
animation. What advantages
does it have for game makers?
Unlike keyframing and traditional
frame-by-frame techniques, mo-
cap has the ability to capture
realistic movement quickly. In the
case of Jackie Chan (see page
8z), signature moves are as
much a part of characterizing
Jackie Chan as the character
model. Traditional animation
would have meant hundreds of
development hours just to get
something that may or may not
have resembled Jackie Chan's
movements. How does it work? A
computer records the position of
key points on an object and
applies the same movement of
those points to a virtual version
of that object. In the case of a
human, special transceivers are
placed at every movable joint.
Movements within a zone, such
as rotation and displacement, are
recorded by special cameras that
see only the transceiver
locations. Movement is stored as
XYZ deltas and sorted into a
database format that will later be
used by the game engine to
reproduce movement. Every joint
recorded on the human subject
can be re-created within the
game, scaled to size, and
perfectly mimicked on a model.
Why isn't it used more often?
Despite its usefulness, mo-cap
still suffers the pitfalls of any
recording, meaning that it
requires a lot of work to splice
together — and studio time can
become quite costly. Also, mo-
cap animations sometimes look
"canned," and it can be difficult
to transition smoothly from one
motion to another. Only now is
software being developed that
will automatically catalog moves
and transitions by just watching
hours of movement. The best is
yet to come when mo-cap
hardware costs drop, and future
game engines are released with
enough power to interpret the
data of such advanced mo-cap
features, enabling smooth
transitions between animations.

Movers and Shakers

by **Colin Campbell**, Next Generation's international correspondent

Vive la revolution

There's a feeling of revolution in the air. Not the sort of revolution you read about in press releases but actual things-changing-for-the-better revolution.

No, it's not time to begin prancing in the piazzas firing Kalashnikovs into the air. But it is time to consider that the ancient regime is going the way of Mad King George.

And who is this clutching The Rights of Gamers document, fist in air, clambering onto the scaffold? Why, none other than Sega. For so long hounded and humiliated, it's decided to hit back.

Sega appears to be on the verge of delivering an absolutely blinding piece of kit, fully supported by great marketing and tons of genuinely good games. At least, if you wanted to get carried away by all the optimism and hype and good cheer, that's what you'd be forgiven for thinking.

And what of Nintendo? Three years ago it was the firm that could comfortably point to its record and claim itself to be faultless. These days — creative highlights aside — it's a byword for delays and bad deals. There's been talk of a rushed and botched "Nintendo 2000" plan (see "Stymied in the design stage," page 24), which all has a hint of a "Bay of Pigs" style fiasco in the making and which has done little to resurrect a once gleaming reputation.

Sony is hugely successful, but there are many in the industry who cannot help but suspect trouble in the future. I am currently unconvinced that Sony's booth at E3 will be a bazaar of amazing, imaginative gameplay explosions ejected straight from the crazy minds of mad fools who just have to create. More likely, there will be some sequels, a few bankable properties and leverageable licenses, and some people in suits. All very thrilling, I'm sure

Right now Sega is lining up a clear future path and making all the noises we want to hear about support. Meanwhile, the best we can hope for from its competitors

are Sony execs unwilling to jump off a gravy train and Nintendo execs frantically trying to get back some credibility heaven-knows-how. Like it or not, Sega is our friend.

Original din

Prince of Persia 2, Civilization 3, Quake 3, Railroad Tycoon 2. Ah, you're thinking, the "Whatever happened to originality?" lecture is coming up. This is a staple of many game

> Who is this clutching **The Rights of Gamers document**, fist in the air, clambering onto **the scaffold?** Why, none other than **Sega**

commentators, which is absurd because it's about the least original concept imaginable.

If originality is so easy to come by, why can't these guys seem to find an original way to express the notion that we should have more of it?

There are some original game ideas out there, but they tend to come from people with minds of gold as opposed to bone, and concrete, papier mache, beef, bone, or blancmange that make up most of us. That makes them rare and precious. Stamping feet and demanding more are pointless practices unless it can be demonstrated that the current creative

climate is stifling talent.

A binary thinker will argue that creative people sent into the evil mines of sequels, sports games, racers, and platformers would otherwise be engaged in coming up with a new idea. Thus, anything that caters to a pre-established demand is a bad influence on free thinking.

Really? I doubt it. Genuine talent has a habit of finding a way because most industry adores originality. Take PaRappa. It only had to be quite fun and seem original to be welcomed into town under a shower of

fluttering rose petals.

Originality is not to be found packaged in one game (go on, try to name an original game). It's to be found peeking out from the latest examples of familiar genres.

The practice of improving on established benchmarks is worthwhile in itself, which is more than can be said for pointing a scornful finger at a bemused game industry for following established patterns of human behavior.

There are some people who actually believe the industry is populated exclusively by drones who "wouldn't know a good game if it smacked them in the butt" (a long-standing favorite and not wholly original phrase of many whiners). Truth is, a fair number of these wicked suits we keep reading about spend most of their waking hours hunting for originality. Finding it is the next best thing to making it.

No, this is not an apology for those in the industry who play it safe. There are plenty of dreadful dullards, but their presence does not suggest a blankie lack of talent. Nor does it ignore all those bad games: Their presence confirms the difficulty of producing something good. Nor is it some Leibnitzke claim that this universe is the best that it possibly can be

Things can always be improved

Rather it's an acceptance that brilliance is unlikely to emerge month-in and month-out in anything other than some freaky parallel universe of perfect beings. For evidence take a look at reality in any art form or arena of entertainment ever to grace this particular planet.

It's also a jibe at the self-satisfied conservatives who claim to represent consumer interests. There is a delicious hypocrisy in critics who lazily cater to populist tastes in playing games and that also, very occasionally, manages to render something amazing.

> Truth is, **a fair number** of these wicked suits we keep reading about **spend most of** their **waking hours** hunting for originality

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STYMIED IN THE DESIGN STAGE

Nintendo's post-N64 future is getting complicated

Nintendo is looking for a new development partner for its next system, but uncompromising management and an unlikely competitor have left the Japanese gaming power between a rock and a hard place.

SGI enjoyed big revenues from N64 and had begun work on the Nintendo 2000 superconsole project last summer. But according to sources, squabbling over a contract and an overdose of talent from SGI caused Nintendo to terminate the partnership last December.

With market forces squeezing N64 overseas, Nintendo would like to get started on its successor quickly. It first considered CaGent, the original hardware division of 3DO, which was sold to Samsung. CaGent had a nearly complete console design built around the MX architecture that, with a little

modification, would have suited Nintendo quite nicely. Nintendo itself reportedly was interested in buying CaGent but could not reach an agreement with Samsung regarding the terms of the sale. As a result, the deal was canned early in 1998. CaGent was sold to Microsoft's WebTV division in April.

With SGI and now CaGent off the block, Nintendo has two strong options in the U.S. It can partner with an existing 3D hardware company like 3Dfx or Nvidia (much of the talent that left SGI in the past several months migrated to these companies), or go with a new 3D startup called ArtX. Launched by the two former SGI employees most directly involved with N64, ArtX's reason d'etre was reportedly to get Nintendo's business. Unfortunately for Nintendo, the company doesn't have a new chipset ready yet, which would seriously jeopardize the desired launch time (currently rumored to be late 2000 in Japan). Furthermore, SGI has filed numerous lawsuits against ArtX and Nvidia for allegedly infringing upon patents. If Nintendo decides to partner with one of these companies, it could wind up having to pay stiff royalties to SGI — a scenario it obviously would rather steer clear of.

The decisions Nintendo makes now will determine the company's path for the next several years. If it chooses to go with ArtX (assuming it's able to fight off SGI's lawsuit), it will need to complete a chip design in an extremely short time. If it doesn't go with Nvidia, Nintendo will have to find a technology that is already suited to the console market or one that can readily be changed to suit a similar purpose. Either way, at this point the chances of Nintendo hitting its desired 2000 release with a new system look extremely slim.

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GAMES MEAN BUSINESS

A recent study found that computer and videogames generate big bucks, jobs, and a technological edge for the U.S. economy

According to a study commissioned by the Interactive Digital Software Association, the game industry has not only undergone rather explosive growth in the last year, but also has had a significant impact on the U.S. economy as a whole. According to Coopers & Lybrand L.L.P., which authored the report, the U.S. game industry generated $6.4 billion in the '97-'98 fiscal year (including sales, rentals, and online revenue) — compared to $5.7 billion for total U.S. box office receipts. The industry created more than 20,000 new jobs and grew by an astounding 35% over the previous year, making it "the fastest growing segment of all entertainment industries in the U.S. — faster than records, faster than movies, faster than books."

In addition, the survey found that video and computer game companies spend an average of 30% of their equity on R&D, nearly twice the rate of Fortune 500 companies. In other words, it seems the highest of the high tech in both software and hardware is being developed purely for games and entertainment, and this filters down to everyone else. Further, more than 46% of the people in the game industry are actively engaged in product development. According to the report, "[The] November 1997 Monthly Labor Review [stated that] the average percent

of development employees (including engineers and scientists) in the U.S. labor force was just under 14%."

This is serious food for thought, considering a recent Business Week article stated that revenues in the entertainment industry were thinly spread and very few companies were actually making money. The article, oddly enough, focused on movies, music, books, and television, yet failed to include video and computer games.

So the next time someone disses your Tekken 3 habit, just retort with, "Hey, I'm doing my part for the economy."

—ng

In the Studio

Development news from the front line

Rare's Donkey Kong 64 is reportedly well under way and could see a summer '99 release. According to sources, Banjo-Kazooie and Twelve Tails were merely testing grounds for the technology being developed for the mega-sequel, which originally was announced as a candidate for the 64DD. Sources say that Donkey Kong 64 will most likely appear in cart form, like Zelda. Nintendo won't confirm a release date

indicate that Nintendo and Blizzard have opted to forego 64DD in favor of the standard cartridge format. StarCraft is the latest in a series of games that have defected to cartridge. Could Nintendo's apparent lack of faith in its own hardware's ship date doom 64DD? With all these projects heading for cart instead of DD, we're starting to doubt too.

Codemasters is working on an enhanced version of its Micro Machines V3 to be released as its first N64 project. The franchise, which got its start on early 8-bit systems, is a perfect match for the N64, with its imbedded multiplayer support. Due to the enormous popularity of the series in Europe, we anticipate that it will appear there first, followed by a U.S. release sometime next year.

Who is Tempest's greatest fan? Why Jeff Minter, of course, and he is working long hours to finish VM Labs' flagship title, Tempest 3000, the sequel to the hit Jaguar title Tempest 2000. Most of the work thus far has focused on implementing the kind of psychedelic effects Minter is renowned for, with gameplay only recently coming to the forefront. Even though there is some question of whether the Tempest title can legally be adopted, it is a surefire bet that at least Tempest fans won't be disappointed with the end result

Namco continues to work on Soul Calibur, the sequel to Soul Blade. The game will introduce several new characters, as well as a new system of movement. Part of that new system will be the ability to move more freely in a 3D environment, something that has yet to be done effectively in mainstream fighters. Sources indicate that Namco plans to make home conversions, but hasn't confirmed a release date.

When Nintendo announced that it had secured a deal to produce Blizzard's popular PC title StarCraft exclusively for Nintendo 64, it was assumed that the multiplayer game would be the ideal title to launch with 64DD in the U.S. However, sources

MIYAMOTO APPOINTED TO AIAS HALL OF FAME

The newly formed Academy of Interactive Arts and Sciences (http://www.interactive.org) got off on the right foot by announcing that Nintendo's Shigeru Miyamoto will be its first inductee into the Academy's Hall of Fame. "It is not an understatement to say that Mr. Miyamoto's games set the standard for the videogame-playing experience through several generations of both gameplayers and console hardware," said Academy President Jim Charne. We couldn't have said it better ourselves.

Miyamoto's accomplishments — including the creation of the Mario, Zelda, Metroid, and Donkey Kong series — practically define the criteria for induction, which, according to the AIAS, include "pioneering a new game, influencing other designers and products, and demonstrating the highest level of creativity and innovation. [Inductee's] work must have resulted in ongoing cultural significance and influence or created a success that has expanded the scope of the industry"

If the AIAS wants to impress us as much next year, Next Generation suggests the induction of Ed Logg, creator of such seminal Atari coin-op titles as Asteroids, Gauntlet, and Centipede, as well as Tengen's Tetris.

This month in videogame history

July 3, 1997	**Next Generation Online** reports that Sega has scrapped plans to ship its NetLink modem in Europe. United States distribution of the product has been disappointing, leading many to doubt the viability of console modems
July 6, 1984	Formal layoff announcements are made at Atari as the Tramiel regime moves in and consolidates power. With a few exceptions, most departments lose roughly 95% of their staff
July 15, 1996	Sega of America announces that Tom Kalinske will leave for an education company in his six years at the helm, the toy-industry veteran was responsible for the immense success of the 16-bit Genesis. But after stealing more than half of Nintendo's market share, Sega stumbled badly with Sega CD, 32X, and Saturn. Kalinske is replaced by Shoichiro Irimajiri. The same day, Sony defector Bernie Stolar is appointed executive vice president, in charge of product development and third-party relations
July 17, 1996	Sony forces Jim Whims and Angelo Pezzani, two key members of the original U.S. PlayStation launch team, to leave. A management reshuffle ensues, with a Japanese chief eventually being installed
July 23, 1985	Commodore, in a gala event at New York's Lincoln Center, premieres the Amiga 1000, its revolutionary multitasking, multimedia machine. While popular with consumers in the U.K. and Europe, in the United States it finds only niche success as a low-cost, high-power, video editing system
July 27, 1981	Bill Gates purchases an Operating System from Seattle Computer. The OS becomes MS-DOS, and the foundation for both the fall of IBM from the top of the PC market and the rise of Microsoft

Sources: Next Generation Online and Don Thomas' I.C. When (http://www.issoftware.com/icwhen)

Arcadia

by Marcus Webb, editor of RePlay magazine

Arcade/PC moves from concept to reality

Since fall 1996, the arcade industry has been talking about adopting desktop PC technology and software for use in coin-operated games. Now it's for real. *Quake Arcade*, a PC megahit that has been transplanted and adopted for coin-op gameplay, is reportedly earning some good money at Sega GameWorks and LBE Namco CyberStations. Published by LBE Systems, this title runs on Intel Pentium II processor-based systems. GameWorks intends to organize tournaments around the title this summer.

Intel — which is midwifing the whole Arcade/PC initiative — said Arcade/PC games are up and running throughout the United States, as well as in Canada, Egypt, and Hong Kong.

Coinsoft: huge boost for Arcade/PC

The biggest news to come out of the ASI spring trade show was the formation of a joint venture company called Coinsoft, which will develop and publish PC-based videogame software for the coin-op market. Coinsoft is backed by H. Betti Industries (Carlsbadt, NJ), America's largest and most powerful arcade game distributor, along with Interactive Light (Santa Monica, CA), one of the most innovative and aggressive new technology factories. Under the leadership of HBI Chairman Peter Betti and IL President Amir Rubin, the combination should prove formidable.

Coinsoft's first Arcade/PC game will be a dinosaur fantasy game under the working title *T-Rex*. It's being developed by Angel Studios (Carlsbad, CA), using a standardized software toolkit from Interactive Light's subsidiary, Immersica.

T-Rex will be previewed at this fall's IAAPA show and will launch at ASI next spring. In two configurations: a podium-style upright and a deluxe sit-down arcade platform with a 50-inch monitor and highly theatrical presentation, with a cost comparable to certain deluxe simulators. A third configuration, smaller arcade-standard uprights, will follow in fall '99.

Vision for the future

Betti said he expects Coinsoft to offer consumers a far wider variety of games than traditional manufacturers like Sega, Namco, and Midway do. "They can't afford to take risks with new concepts and designs. Their target market is a fairly narrow audience. I feel with the ability of literally hundreds of developers to make games for the Arcade/PC, we'll see all types of games at all levels: countertops, quiz games, strategy games, and games that might be a lot more desirable for women players. Today we have perhaps 15 design teams throughout the industry working on coin-op; for the future we're talking about having literally hundreds of teams working on coin-op."

With expansion into branded chain stores such as Chilis and Houlihans, Coinsoft hopes to attract a new customer base. "If we broaden the demographics of our players, it's good for the entire industry — including our existing manufacturers and suppliers," Betti said.

A universal PC-based platform would also enable the arcade industry to tie into the converging worlds of gameplay in many different formats and media with an integrated marketing and promotion strategy, Rubin added.

Intel moves for truly open platform

Albert Teng, Intel's director of coin-op market development, hosted a collection of Arcade/PC supporters, who revealed their latest products and plans at an industry seminar in March. More than 100 companies now support the Open Arcade Architecture Forum (OAAF) goals and specifications, Teng said, and they have agreed to support a software development kit that can have a single architectural profile for easy software upgrades. This means that with a few minor tweaks, all OAAF-conforming software can be run on all OAAF-conforming hardware.

NINTENDO AND TOMMY HILFIGER SEAL A DEAL

Companies leverage off each other

For such a young entertainment medium, it's quite impressive how quickly games have become so pervasive, penetrating approximately 40% of American households. So what better way to propel them even further into the mainstream than for game companies to latch onto big-name brands?

That's exactly what Nintendo is doing with the Tommy Hilfiger line of clothing. This August, Tommy Hilfiger will debut its line of 1080° *Snowboarding* clothing in 1,500 stores, alongside interactive kiosks on which shoppers can play the game.

Why Hilfiger? As Nintendo spokesperson Perrin Kaplan explains, "it's the total cool factor. Both Nintendo and Hilfiger are way up on the charts of being really hip, especially among boys."

The launch of Nintendo 64's first sports game made timing for such a partnership ideal. Of course, this type of alliance also means that the game is clothed with Hilfiger logos throughout, but Nintendo believes the payoff will be worth it. According to Kaplan, the company hopes to gain "an additional exposure in deepening a relationship with that age set."

And this kind of deal has deeper implications. "The Nintendo of America/Tommy Hilfiger deal is further evidence that videogames have completed their migration into the mainstream of American culture," says Doug Lowenstein, president of the Interactive Digital Software Association. "When a major international fashion designer brings out a line of clothes based on a videogame, that's another sign of the mass market that has emerged for entertainment software."

But on its most simple level, says Kaplan, it's about "showing folks that games and fashion are part of their everyday lives."

Don't be surprised to see Tommy Hilfiger logos sprinkled throughout 1080° *Snowboarding*. It's all part of the marketing deal between Hilfiger and Nintendo

SEE! Allison's wonderland in scientifically perfect eye-popping 360-degree space cam!

BLAST! evil lagamorphs with the devastating H.A.R.E. rifle!

SWING! JUMP! FLY! along with Allison and her host of mutant allies!

GROOVE! along with Allison dancing as she hypnotizes the enemies to do her bidding!

BIG IN **JAPAN**

Battle mode

When Enix announced its intention to develop for PlayStation at the end of 1996, shortly after Square's defection, relations at Nintendo's Kyoto HQ must have been particularly strained. With the recent announcement that the release of Miyamoto's showpiece title *Zelda* will slip to Christmas, the atmosphere only could have gotten worse. Now, both Square and Enix have announced new RPGs that could potentially derail Nintendo's 64-bit console and send it hurtling into the ravine come next spring in Japan.

With total domestic sales of *FFVII* exceeding the $3.8 million mark, Square is confident that *Final Fantasy VIII* will dominate the Christmas charts when it's released in December — clashing head-on with not only Nintendo's *Zelda*, but also the increasingly risky 64DD hardware

Last seen on SNES, the hyper-successful *Dragonquest* series rivals *Final Fantasy* in popularity

launch. *FFVIII* may cost as much as $22.7 million to develop, according to the Japanese publication, *The Nikkei Industry Newspaper*.

To add to Nintendo's woes, after almost two years of silence, Enix will release next year one of the most eagerly awaited RPGs of all time — *Dragonquest VII*, which has suffered seemingly endless delays since inception. The game's creator, Yuuji Horii, attributed the delay to "an increase in content," which **Next Generation** suspects occurred shortly after executives at Enix caught sight of the stunning efforts of its old rival Square ...

Kenji Ino in the spotlight

Ino remains tight-lipped over rumors that his latest creation, *D2*, will emerge not on Saturn, but Katana

Kenji Ino, the left-field game creator, made a recent appearance on the trendy Japanese TV show "Tonight 2," where he introduced *D2* to the public for the first time. The game, which was originally slated for Matsushita's aborted M2, is rumored to be heading for Katana. Viewers were none the wiser, though, as Ino only allowed the rendered intro to be shown, with the real meat of the interview directed towards Ino's vision for the in-game music, which he intends to compose himself.

The eccentric designer revealed that he will present a full exposé of *D2* at a special preview to be held in one of Tokyo's giant theaters later this summer. At the recent Tokyo Game Show, Ino kept the press guessing, with a sticker that read: "D2: Runs under XXXXXX." Whether those six letters spell Katana remains a mystery.

D2 spent some dark months in development limbo following the demise of Matsushita's M2 project

Pikachu out of pocket

Pikachu, the yellow cat/rabbit/whatever, has proven to be the most popular of Nintendo's *Pocket Monster* Game Boy characters (despite his cartoon image causing epileptic fits in thousands of young people in Japan last year). In fact, he has become the first virtual pet star. The Game Boy *Pocket Monster* titles have sold, to date, almost three million copies, and so highly regarded is Pikachu that the company has recently created a key-chain-style virtual pet game devoted to him. He feeds on electricity and shoots lightning bolts at the owner whenever he's unhappy (which seems to be most of the time).

Nintendo is counting on Pikachu for more than the virtual pet market, however. The distinctive yellow-and-black-striped creature will help lead the 64DD charge in Japan this summer, and providing the craze is still on the Tamagotchi has already been consigned to the dustbin of history, it will provide the first faller-app for what is arguably Nintendo's biggest hardware gamble since the costly Famicom Disk system in 1986.

Two 64DD *Pocket Monster* titles are in production. The first, *Pokemon Stadium*, allows players to upload their Game Boy cart creations to N64 and should then fight it out in 3D. The second, *Pokemon Snap*, is somewhat stranger. Players enter a Mario-style world filled with monsters gang about their busy business. Not unlike a virtual safari, the gamer then takes a series of still pictures, which, from early screenshots, consist of such classics as "monster standing in sand," "monster

standing on grass," and "monster standing on grass but near some sand."

Of more interest, however, is a forthcoming stand-alone N64 title starring the little guy titled *Pikachu Genki De Chu* ("Pikachu Is feeling great"), which will see a U.S. release. It's the first game to make use of Nintendo's voice recognition technology, which enables players to order the little fella around a fully 3D environment.

The craze is manna from heaven for Nintendo, which is currently languishing in third place, behind even Saturn, for market share in Japan.

Nintendo prepares to cash in on the Pocket Monster craze, with Pikachu Genki De Chu (left), Pokemon Snap (center), 64DD Pokemon Stadium (top), and a new handheld

Saturation bombing

It seems that with every passing incarnation, the *Bomberman* series moves further and further away from the elegant simplicity of the original. But it always was a uniquely Japanese kind of game, with bright, colorful characters and cartoon violence of the kind beloved by otaku. As such, Bomberman is as open to evolution as Mario or any number of other star-quality videogame characters that have emerged from the Japanese gaming firmament. It's perhaps no surprise, then, to find Hudson throwing its tiny terrorists into the least frantic genre of all: the RPG.

Bomberman Wars owes much to previous simulation RPGs, sporting a forced perspective environment and dual Quest and Battle modes. The game has a chesslike feel to it, with players placing their units strategically on the map before engaging in turn-based combat, the ultimate aim being the destruction of the enemy king. To keep the pace up, a clock limits the reaction time. When the clock stops, the units (which include Bomberman ninjas, Bomberman giants, Bomberman monks, etc.) release their bombs. The Quest mode offers up to 25 levels of solo play as a Bomberman King out to rescue his buddies from various end-of-level bosses.

Naturally, *Bomberman Wars* is a multiplayer game, though it is limited to just two sides. By the time you read this, it will be available on import for both Saturn and PlayStation. A U.S. release is unlikely, though, despite favorable reviews in Japan.

Bomberman will also be tackling the racing genre this summer in Japan in Hudson's *Bomberman Fantasy Race* and has just recently appeared in *Bomberman Hero* — a spirited (but flawed) take on the 3D platformer for N64.

Bomberman Wars takes the cute Hudson mascot into simulation RPG territory. A U.S. release is unlikely

It's not over until the fat lady wins

As if further proof were needed of the kind of cultural impact videogames have in Japan, Sega's fighting game *Sakura Taisen* has made into a stage musical. Japan has a long tradition of musical theater, much like Broadway, but never has a musical sprung from something so seemingly unrelated as a videogame. The storyline of the musical is anybody's guess, but considering its violent origins, *Next Generation* would expect the cheap seats to be closest to the stage

Minitalk: **SCEI**

In issue 40, **Next Generation** awarded the Japanese version of *Gran Turismo* five stars. And in May, the U.S. version of the game was released. We caught up with the creators of this seminal racing title at SCEI headquarters in Akasaka, Japan, on the eve of their independence as third-party developer Polys. At the table was Producer Kazunori Yamauchi, environment mapper Takeshi Yokouchi, course artist Masaaki Goto, car artist Yuichi Matsumoto, and Lead Programmer Akihiko Tan.

NG: How many units did *GT* sell in Japan?

KY: More than 1,700,000 pieces until now. It is one of the most successful SCEI games ever released.

NG: What, in your opinion, is the key reason behind the game's popularity?

KY: One reason is the level of realism. Furthermore, in Japan, sports cars are very numerous — it's a cultural phenomenon. I think there is no other country in the world where there are so many sports cars! Japanese people really love them. Also, I think in the history of racing games, *GT* can genuinely be seen as a generational leap above the competition.

NG: Did you focus on any particular game as you developed *GT*?

KY: No, we did not focus on any particular game. When we gave interviews in the U.K., we noticed a few games like *World Circuit (Formula One Grand-Prix* in Europe) on PC and Amiga. I wonder, in fact, if we have not been more than a little influenced by these games …

KY: Maybe the memory …

AT: Yes, the memory from the beginning until the end of the development.

KY: We had to fight against the limits of the PlayStation. It was very difficult to do because everything in *Gran Turismo* is so detailed.

NG: Does *GT* push the console to its limit?

KY: I have been asked this question in December and I answered at that time that we were using 100% of the capacity of the PlayStation. Since then, we have discovered new ways to optimize the game. So presently I would answer between 75% and 80% only.

NG: Which part of the game you most proud of?

KY: I think everybody is proud of the part they achieved from the beginning to the end. The car physics are great, the number of polygons displayed is high, course atmosphere is very good … But you have to consider the game as a whole.

NG: How is the U.S. version different from the original?

KY: The arcade mode in the U.S. version is 25% faster than in the Japanese version. That one had the Arcade and Simulation modes at the same speed — just slightly different depending on the cars selected. The number of hills has also been increased in the U.S. version, allowing for more jumps, although I wouldn't say so much "jumps" as "spots where the cars slightly take off the road." The good news is that none of the licenses have

been lost, and we've actually added cars. There's a 1967 Corvette in there now, which wasn't in the Japanese version. The music too is different, with big-name bands signed up.

NG: Is there anything that you missed that you would have liked to have included?

KY: We wanted to make a more complex Simulation mode, but we didn't have enough time to implement it. We would have really liked to increase the number of different parts for the cars and give the player an even wider choice.

NG: What would you like to include in the next *GT*?

KY: Of course we would like to improve the graphics and the car realism. Regarding the game, we would like to improve the balance of the Simulation mode and add many more features and options, making each car infinitely customizable.

NG: What is the Performance Analyzer gizmo that you used?

KY: The Performance Analyzer enables you to supervise the bus and analyzes the graphics and draw speeds. Basically, it allows you to check how efficiently you use the hardware. It is a machine made to help developers use the PlayStation hardware as efficiently as possible. We used it a lot and it was very useful to us.

NG: You've created three racing games now — *Motor Toon GP*, *Motor Toon 2*, and *Gran Turismo*. Will your next title be more of the same?

KY: We are a team of about 30 staff, and *GT* is only one game. We are presently making a 3D RPG, which is a big departure for us. I cannot tell you any more than that!

Producer Kazunori Yamauchi (above left) is famous for his destruction of a Nissan Skyline GT-R …

The pressure is off for the Polys team following its phenomenal success with Gran Turismo

The
Licensing
Game

After the "big names, bad games" crash that accompanied the end of the 16-bit era, the use of licenses is back on the rise. But how does the business work? And is it a good thing?

T hroughout the evolution of the game industry, companies have always used licenses. In 1977, a young game designer named Shigeru Miyamoto was forced to return to the drawing board and design his own characters when Nintendo failed at the 11th hour to secure the license to develop a *Popeye* game. *Donkey Kong* and *Mario* were the results. A milestone in videogame licensing occurred in 1984, when Trip Hawkins of Electronic Arts paid Julius Irving and Larry Bird $25,000 each for their names and likenesses to appear in *Dr. J and Larry Bird Go One-on-One*, released on the Apple II and Commodore 64 — the first ever sports license. And, of course, licenses played a crucial role in the crash of 16-bit and the collapse of Acclaim when wave after wave of hastily produced, low-quality games flooded the market in the misguided belief that a big-name license — Batman, The Simpsons, Hulk Hogan — would be enough to ensure success.

These days, licenses are a lot more prevalent in games than many people think, and they appear in many forms. *PaRappa the Rapper* features licensed characters; *Need for Speed* features licensed cars; *Wipeout* contains licensed soundtracks; *NFL GameDay* has licensed names, logos, and statistics; *AH-64 Longbow* features licensed sound effects; *Baseball* has licensed buildings; and *Grand Prix Legends* features licensed advertisements, tracks, tires, and the drivers who raced in the 1967 Grand Prix season, many of whom aren't alive today. As a rule of thumb, whenever a game features a person or named object from the real world, a license is probably involved.

Licenses are here to stay — there's no debating this fact. What is up for speculation is whether or not this is necessarily a good thing. Despite the obvious attractions of using a license, there are many who believe that gameplay inevitably suffers as a result. And that means that the gamer can end up paying the price for what can be a very, very expensive business.

License to thrill

Game publishers are attracted to licenses for two main reasons: Either a license is used to help with marketing and to give a game that indefinable "extra something" on store shelves, or it's used because game publishers genuinely believe that

the addition of a license will make their game better. It's this latter category we are interested in (although the former category makes up the majority of licensing business). Here, there are two types of licenses: those that add realism (like the cars in *Need for Speed* or the teams and players in *NFL GameDay*) and those that make games out of fictional characters, worlds, or scenarios (like in *Starship Troopers* and *Scooby Doo*).

It's easy to see how these real-world games benefit from licenses. Andy Hollis, executive VP of Origin, explains how EA's *June's Combat Simulations* reaps the rewards of its link with Jane's on many levels. "Our relationship with Jane's started off as a licensing agreement purely to help with marketing. But the more we learned about each other, the more we realized that they could help with development too," he says. "Jane's has this immense database of information and specifications on all military hardware that's out there, they have a huge image library, they have video and audio resources, and on their staff they have world leaders in geopolitical and military analysis who earn their living answering questions such as: Where are the world's future hotspots? How will tomorrow's battle scenarios play out?

Games employing real-world licenses also give gamers a glimpse of what it would be like to do something that they may ordinarily never get the chance to do

What will the order of battle be like? Who will have what equipment? What sort of attrition rates might there be? We can use all of this information and expertise in our games. It makes our titles more realistic, more plausible, and it adds a lot of credibility."

Games employing real-world licenses also give gamers a glimpse of what it would be like to do something that they may ordinarily never get the chance to do. "People know what Ferraris and Lamborghinis are, but they probably don't have the chance to drive one. We give them that chance," says Peter Royea, a product manager at EA. "Similarly, not everyone can play golf like Tiger Woods. But our games offer the chance to drive the ball 300 yards on the final hole of the Masters,

score a birdie, and win the championship." And yes, it does make a difference when the game is based on real situations that the player can relate to. "In the quest for providing fun we've found that it helps to provide cues to real-life experiences and associations," Royea continues. "For whatever reasons it's definitely more fun to drive a Ferrari than it is to drive a generic, red, fast, good-looking car."

Sometimes the benefits of including real-world licenses are incredibly subtle but nonetheless effective. "In *Grand Prix Legends* we've negotiated with Pepsi to have an accurate copy of the original 1967 Pepsi billboard on the Monza circuit," says Mike Lescault, a producer at Papyrus. "Now, this alone isn't going to make anyone go out and buy our game. But while they are playing, as they race out of the tunnel and see the big retro Pepsi logo, it will really help immerse players into the game world and help cement the idea that this is 1967 and they are racing in a Grand Prix in that era."

The benefit of including real-world players and teams in sports games is obvious. "If you're a sports fan you'll have a favorite team," points out Bob Picunko, marketing director of Acclaim. "And if you're a New York Jets fan and you buy a football game, you expect to have Neil O'Donnell on the field and not just a bunch of guys in a green uniform. In terms of gameplay, the license gives personality and a sense of realism to the game. If there wasn't this level of realism, it wouldn't be as enjoyable to play." Additionally, Picunko says that Acclaim's close relationship with Green Bay Packers quarterback Brett Favre provides more than just extensive marketing angles and a heightened sense of authenticity. "We hired him to consult with the game," Picunko says, "so we have someone who's actually been on the field to help explain to our development team what it's like to be a real football player."

What's harder to quantify is how a fictional license (such as a movie tie-in or a comic book character) helps enhance gameplay. That's not to say that there is no value to this but rather that it's a little harder to pin down what this value is. "A good license provides familiarity with the game's characters, settings, and places, and this can help a great deal in making a game fun," explains Louis Castle, executive producer of Westwood's *Blade Runner*. "You can build your game around an

The fact that gamers can play as their favorite team is something some publishers believe is the key to success. However, the costs of acquiring an NFL license is making it hard to do

incredibly rich universe of characters and events, and you don't have to invent all of this stuff from scratch." SISA President Kelly Flock echoes this belief. "With the right type of game and property, a license offers a well-defined environment to replicate. You don't have to explain so much to the player, and they already have a good idea of what kind of game it's going to be."

"The value of a license all comes down to how into the movie or characters you are," says Shiny President Dave Perry. "Remember when you were a kid, remember how cool you thought the Six Million Dollar Man was? Think how excited you'd have been if you got to play him in a videogame. If you're a fan of a character, any opportunity you have to extend your enjoyment of that character in a new way will be welcomed."

Perhaps David McElhatten, executive producer at Marvel Interactive, sums it up best when he says, "You could come up with a new, original character who climbs walls, sure. But Spiderman does it with a certain flair." And you know what? He's right.

Show them the money

Unsurprisingly, as the demand for big-name licenses has increased, the competition to acquire them has increased as well; and as a result, costs have skyrocketed. In 1998 the "magic number" for securing the license to produce a game based on a big movie is $1 million. "In the past, big movies demanded a 2% to 4% royalty of the game's net wholesale price. Nowadays it's more likely to be between 5% and 8% [roughly $2 per unit] plus guaranteed sales of between 200,000 to 300,000 units," reveals one insider. "When spin-off products and ports to secondary platforms are included, the total cost usually exceeds $1 million." And that's enough to keep all but the wealthiest game companies out of the running. "It's a business for the big boys," agrees Flock. "You're certainly not going to be able to walk

Capcom has consistently produced quality games using the Marvel license

With the exception of Marvel Super Heroes from Capcom, the PlayStation has had very little luck with games branding the Marvel license. Marvel Interactive now takes a more proactive role in ensuring that future games using its trademarks are ones consumers will enjoy

straight in and pick up *Jurassic Park* or *Godzilla* unless you are one of the major players."

In the sports market, the numbers are even more intimidating. To secure a license from the NBA, NFL, MLB, or NHL, insiders (who wish to remain anonymous) quote figures of "$500,000 up front plus between 5% and 15% of wholesale price in royalty per unit." Considering that sports games (with the exception of basketball) require two licensing deals — one with the league for the team names and uniforms, and one with the players' associations for player names and statistics — it quickly adds up to a cost of between $3 and $5 per unit. "We're talking major bucks here," says Gene Goldberg, senior director of licensing at NFL Properties. "Maybe a mom-and-pop organization could come to us, and we'd work out a deal for them to make T-shirts. But to produce a licensed NFL videogame requires major bucks."

The numbers are so big that the business of brokering deals between the biggest license holders and game companies is complex and managed with extreme care. It's as much about relationships as it is about cash. "In Hollywood it's not what you know, it's who you know," says Perry. "A lot of people wonder what these big figureheads of companies do all day on the golf course. The answer is that they are busy maintaining contacts."

In the sports market it's about established relationships and having a successful track record. "We limit the number of licenses that we grant," explains Greg Lassen, the NBA's director of interactive licensing, "because we don't want to flood the market with too many games."

Anonymous insiders indicate that each of the sports leagues works to a "rule of five" games per format per year. "But don't think that once a year everything's up for grabs," says Lassen. "We have established relationships with a core group of the leading publishers in the electronic games industry who are producing very, very good

and now with VR Sports at Interplay. "They want companies with a track record, and this gives Electronic Arts a tremendous leg up and a huge advantage when it comes to acquiring licenses. And companies such as THQ, who recently lost the WCW license to EA Sports, get naturally miffed over this. But EA Sports is clearly attractive to

Game's like *Starship Troopers* don't try to follow the movie's storyline. Instead, they re-create the world of the movie and enable players to create their own storyline

goes in both directions," says McElhatten. "Sure, sometimes out of the blue we'll have someone knock on the door and ask if they can use one of Marvel's characters for a specific project. But typically we have ongoing relationships with companies we've worked with in the past, and we keep in close touch."

Image is everything

But why do the movie studios and the sports organizations want to work solely with a hand-picked group of the videogame industry's elite? Why are they so careful who they partner with? Increasingly, license holders are waking up to the fact that with the majority of their earnings attached to the game's sales figures (in the form of per-unit-sold royalty payments), a best-selling game is going to earn them more than a poor-selling game. This means that they have a vested interest in examining the pedigree of would-be licensing partners even more closely than before. It's no longer simply a matter of finding companies with deep pockets.

"A new company will have to demonstrate to us that they have not only development expertise

> "EA Sports is clearly attractive to license holders because **they are the biggest and they've been known as the best**"
>
> — **Happy Keller**, producer, VR Sports

product. It would be difficult for someone new to walk in if it meant pushing one of these companies to the side."

Success breeds success, then, and companies on one side of the fence are keen to work with the biggest, most high-profile companies on the other. "The sports organizations want partners who are going to be more than a flash in the pan," explains Happy Keller, formerly a producer with EA Sports

license holders because they are the biggest and they've been known as the best."

It's the same in the movie business. "When a studio has a new movie, they go to the hardware companies first. Then the big third parties. Then the second tier. And then, if they haven't had any luck, they'll see if anyone else is interested," explains Flock. Even in the world of comic book licensing the same operating procedures apply. "It

but also sales, marketing, and distribution strength," explains Goldberg of NFL Properties. "We'll listen to anyone, but we'll only be on our way once we've separated the contenders from the pretenders."

Additionally, license holders are beginning to realize that a successful videogame product can not only be a profitable spin-off but can also add to the parent brand's awareness (gamers going to see the next James Bond movie because they enjoyed *Goldeneye*, for example). They are also becoming increasingly aware that good games sell better than bad games. So nowadays most license holders have an interest in making sure that the game is a critical success too. In fact, to hear some of them talk about the importance of great gameplay, you'd think that they weren't interested in turning a profit at all. "When we are [choosing which videogame company to work with], number one, we're looking for a great game," says Mark Capian of Sony's licensing division, Sony

> "Now you try and **design a game with Arnold Schwarzenegger in which he doesn't use a gun,** and you try and make that fun. It's impossible! **And, sure enough, the game wasn't fun"**
>
> — Kelly Flock, president, SOA

Signatures, "and this is because the license is important to us — we don't want to have its reputation damaged by a bad product."

This kind of more considered, comprehensive approach to licensing is a relatively new development. Previously, many license holders have been accused of being interested only in making a quick profit at the initial contract signing — and to hell with the quality of the game. "There

have been times in the past, and I don't want to name names, when game companies have achieved commercial success purely because of our characters and a massive marketing campaign," acknowledges McElhatten of Marvel Interactive, "and sometimes the games have not been everything they should have been. While we've reaped some of the benefits from that, we realize that it's not good for our company in the long term."

Shiny Entertainment's Perry has seen fresh attitudes from the movie studios. "Initially, the movie companies couldn't care less whether or not your game will be any good or not," he says. "But very quickly, and over the last few years, they've all realized that a bad game doesn't sell." There's been a similar maturation in the sports market. "We don't just say, 'O.K., here's a license, now pay us our royalties!'" says Brad Schlacter, Major League Baseball properties' licensing director for new technology. "These days we're really making an effort to work with the companies, help with their marketing, and do whatever we can to make the game as good as we can — which we both benefit from."

His claims are typical of those from all the sporting organizations, but it wasn't always this way. "In the early days," says Jim Kennedy, EA's VP of business affairs, "when we called up the licensing department of, say, the NFL or the NBA, we were dealing with people who did all sorts of retail licensing — lunch boxes, T-shirts, trading cards — and they didn't really understand the interactive business at all. But now we are dealing with people at the leagues and players' associations who understand games very well, and they are now looking for more than simply the largest royalty or the biggest guaranteed sales number. They're looking for people who can build great products, have good marketing, and have the distribution muscle needed to get the games into the marketplace. They want a complete package."

In fact, everyone that **Next Generation** spoke to emphasized the same fact: that it's no longer just about money but about a "mutually beneficial partnership." Sony's Flock believes that attitudes have improved but largely remains unconvinced. "My experience has been that license holders are primarily interested in the bottom line and,

License holders insisted that *Blade Runner* have the same look and feel of the movie, regardless of the fact that Harrison Ford's character would be absent

Major sport franchises are more inclined to grant licenses to companies like EA, which has a proven track record with consumers

Publishers like EA must even license banner space to make games feel authentic

typically, licenses go to the highest bidder," he maintains. "Sure, they would like to have the best possible product, but at the end of the day they have targets to hit. The licensing departments are answerable to a business manager with a budget who's going to say, 'Is this the best offer we can get?' and not really appreciate the ramifications. Traditionally, they've seen the game as just another spin-off revenue earner."

Keeping creative control

Whether or not the license holder's motives are genuine or not, every license comes with rigidly defined rules as to what the videogame company is allowed to do. "Most licensers that I've worked with feel that they must keep creative control and have substantial creative input into the game," says Westwood's Castle. "The videogame industry has largely brought this upon itself after years of doing really shoddy jobs of slapping licenses onto products that were really inappropriate. We are now paying the price for this." Caplan of Sony Signatures confirms this attitude of the studios. "We make sure that everything from the film that is used in the game is to our liking and that the developer is remaining true to the essence of the license," he says. "For example, if we see a character in the game smoking a cigarette, but in the movie he didn't smoke, then that's an example of something that we wouldn't allow. We want to keep as true to the movie as possible because this, ultimately, is what the fans want."

But it's not just movie licenses, the primary victims of videogaming's abuse in the 16-bit era, that come with strings attached. Even with sports games, where one would think there is little room for creative misconduct, the leagues' and players' organizations keep the game developers on a tight leash. "We are involved in the entire process from design document to approval of the finished game," says Lassen of NBA Properties. "We also have direct input and review over the game's packaging, marketing materials, advertising, and so on. We have input on anything that relates to the development, marketing, and selling of our licensed product."

Occasionally, a game has to be sent back to the game company for revision before it will be accepted. "I've had to send back games in which teams punt on second down, or there are too many blocked extra points, or the tackles are too aggressive," says Goldberg of NFL Properties. "It's usually nothing major, but we do try to make sure that the subtleties and the little nuances of the game are included because it's these things that create the realism."

Game developers will find similar restrictions when working with comic books. "Marvel has very strict guidelines as to how Spiderman can appear, what costume he can wear, what kind of action moves he can do," explains McElhatten. "Our

creative director often has to lay down the law and say, 'You've licensed our character and you've got to do it our way.' Our characters are our bread and butter, they are what we live by. Spiderman, the X-Men, these guys are our flagships, and we've got to look after them."

Largely, though, game makers are sympathetic to the license holder's demands. "The car manufacturers are a good example of companies who have spent millions and millions of dollars in marketing their brand and nurturing good will towards their trademarks," concedes Lescault of Papyrus. "So their big concerns are that we will show their trademark in a bad light — such as having their car bursting into flames on the box — or by us using their trademark to sell our game."

Occasionally, however, creative clashes will occur between license holder and game developer. "As a general rule, license holders don't

on Genesis, Douglas himself had been beaten and was quickly fading into obscurity. Red faces (and a few black eyes) all around.

So occasionally the game publisher suffers. More often than not, however, the person left to pick up the tab is the gamer, who pays for bad licensing decisions with weak gameplay, rushed production schedules, and higher game prices. "When looking to develop a licensed game, one of your first problems is that it's very rare that you can get your best team to do it," reveals Flock. "Your best development talent are always going to want to work on their own, originally developed title and execute their own creative vision."

Another problem with using licenses is that often they come with conditions or clauses in the contract that scupper any hope of making a rewarding game. "You would think that an Arnold Schwarzenegger movie was the perfect license," Flock suggests. "He's a widely recognized, easily

Studios now keep a watchful eye over how well games represent their properties

"As a general rule, **license holders don't understand interactivity**"
— **Louis Castle**, executive producer, Blade Runner

understand interactivity," says Castle, "and they don't really know what makes a game a game. They just want it to look and sound good. When we started work with Disney [on The Lion King], many of their animators found it difficult to accept that a game's animation needs to allow the characters to stop in midair, turn 180 degrees, and go back in the direction they came from. This necessity of gaming went against everything that they knew about animation. There was a long education process that we had to go through."

"With Blade Runner," he continues, "the license holder's concerns came down to whether or not we were properly portraying the mood and the atmosphere of the Blade Runner world. What was important to them was 24-bit color, fog and smoke effects, lighting, acid rain — and all of these things that make game designers cringe because they are a hell of a lot of work to make look good."

At what cost to gameplay?

While it's occasionally difficult to pinpoint the benefits of licenses, it's not hard to see the many drawbacks. Often, the publisher is left to pick up the tab when it all goes wrong. One memorable instance is when Nintendo paid Mike Tyson $50,000 (according to Steven Kent's The First Quarter: A 25-Year History of Videogames) for his appearance in Mike Tyson's Punch-Out on Super NES. By the time the cart launched, however, Tyson had lost his title to James "Buster" Douglas and had been charged with beating his wife. Sega quickly swooped to sign up the new champ, but by the time James "Buster" Douglas Boxing launched

definable, action-oriented character. But before agreeing to let us do the game of Last Action Hero, Arnold had one condition. He insisted that in the game his character could not have a gun. Now you try and design a game with Arnold Schwarzenegger in which he doesn't use a gun, and you try and make that fun. It's impossible! [laughs] And, sure enough, the game wasn't fun."

Even when the license doesn't restrict a game's creation, it can often be used to try and dress mutton up as lamb. "Most people look at licenses for the wrong reasons," says Castle. "Instead of making a great game fabulously attractive and fabulously successful, they reach for a license to turn a mediocre game into a success." In the sports market, some observers believe that the importance placed on licenses serves as a distraction. "Unfortunately, official licenses do allow the game companies to get a little bit sloppy with the gameplay," says Keller of VR Sports. "If the stadium looks great and the players scratch and spit and look just like they do in real life, it's a lot easier to do a smoke and mirrors presentation and hide the fact that the gameplay is bad or sluggish," he concludes. "And unfortunately, having all of the officially licensed stuff has, in some cases, both critics and consumers turning a blind eye to bad gameplay."

Compounding this problem is the fact that once a company has signed a licensing deal, usually it's obliged to ship the product whether it's good enough for the market or not. "We took three years developing Spawn, but frankly, if it had not had that property on it, we probably wouldn't have

published it," admits Flock.

Another sin is when a game's development cycle is rushed. "Your goal is to buy something that is going to be a major hit — in a year or 18 months' time," observes Perry, "and this isn't as easy as it sounds." And this leads to problems. "Typically, a movie will hit the screens eight months after it's been green-lighted, but it takes two years to do a decent job on a game," says Flock. "You almost always miss the all-important co-release with the movie, and you're left trying to coincide with the release-to-video date, or failing that, the pay-per-view debut, or even the network TV debut — when the game is actually ready is the last thing on anyone's mind." The point being that without this need to work to a third party's schedule, a game stands a much better chance of succeeding. "Licensed properties never get that window of tuning and polishing that the best titles need," claims Flock. "They get finished and if the code holds together, they get shipped out the door. Hats off to Nintendo for GoldenEye — that's one rare example of how to do it right."

Another problem is born of the fact that most movies are forced into being games — but it's rarely a natural fit. "Most movies are designed for

people to sit back and watch, and this is what people want," Flock observes. "When people go to watch a movie, they don't want to have to interact and make decisions. As a result, movies are designed around this premise. And as a result, most movies don't make good games."

Westwood's Castle agrees. "Many linear stories can make a good entertainment software product — but rarely can they make good, action-oriented games," he observes. "Most really big games are all about action and intensity, and most movies are about mood and characters."

A license can also, unintentionally, find itself at odds with a game in other ways. *Need for Speed* placed some unwelcome demands on the hardware and the programmers. "It's a lot more work to accurately re-create the real cars than come up with fictional ones," notes EA's Royee. "If we were designing our own cars, then we wouldn't have to worry about sticking to real-world performance statistics — we could make them do whatever we want. We could design our own, fantasy cars around minimal polygon counts. But when you're re-creating a Lamborghini, there are only so many corners that you can cut."

The existence of a lucrative, license-based segment to the game industry also interferes with the "survival of the fittest" order, in terms of which companies thrive and survive in the game business. In an ideal world, the most successful companies would be the ones making the best

games. But licenses offer an alternative route — one in which success, in the short term at least, can be bought. Despite the initial profitability that this may bring, in the long term it leads to instability within the industry and the sort of crashes experienced by Acclaim at the end of the 16-bit era. And this kind of "boom and bust" business isn't healthy for anyone. "The companies that have driven their business by outside intellectual properties are those that are most subject to the whims of the marketplace because they are never quality-driven companies," explains Flock. "Certainly in the past you've had companies like the old Acclaim, the original THQ, and Activision, and a lot of similar companies, who found that when their licenses went cold, they had nothing to fall back on."

Another problem with licenses is that often they came incomplete. "With the NBA, for example, you pay your money, but you don't get Michael Jordan. You can't even put a number 23 on the court for the Bulls," notes Keller of VR Sports. "Another example might be a NASCAR license in which you'll find that it doesn't include some of the teams." And it's not just sports. Many movie licenses come with similarly glaring omissions. "Most of the time when you get a film license, you don't get the rights to use a likeness of the lead actor," says Flock, "so when we did *Indiana Jones: The Fate of Atlantis* or *Indiana Jones and the Last Crusade* with Lucas, we couldn't make the main character look like Harrison Ford." In such instances, one surely has to question the value of the license. As Flock concludes, "All of a sudden you ask yourself, 'What am I getting for my money?'"

The NASCAR license doesn't necessarily include team names and likenesses

picks up the cost of the license in terms of receiving economized gameplay. Because the license costs so much, less money is spent on production. "People think that because they have the license they can cut corners on design," says Flock. "They'll try and leverage some existing technology, and they have only a six- to eight-month development window. I think Imagesoft developed some of their licensed titles in under

For a while, *Need for Speed* was the only 32-bit racer that enabled players to drive real-world cars. EA believes that licensing played a critical role in the series' success

> ## "For whatever reasons **it's definitely more fun to drive a Ferrari** than it is to drive a generic, red, fast, good-looking car"
>
> — **Peter Royee,** products manager, Electronic Arts

An additional problem with a game company enjoying success with a licensed product is that the property essentially belongs to someone else. "In financial terms, this is probably the biggest drawback of using a license," reveals Flock. "If you don't own the intellectual property of the franchise, you're kind of screwed when you go back to the license holder to do the sequel. Why? Because if you've been successful, you're now bidding against your own success. You'll suddenly find that they're charging a lot more money for it and that someone else can come in and steal it from under your nose." More often, however, it's the gamer who ends up picking up the tab — in two ways. The first, obviously, in that consumers end up paying for a bad game. But also, the gamer

three months — and the results speak for themselves."

Making it work

So what's the solution? If licenses are so expensive, come with so much cumbersome baggage, and are more often than not detrimental to the gaming experience, how can a game company make them work? Well, for better or worse, licenses are here to stay. The trick is learning how to use them in the most beneficial way — or coming up with useful alternatives.

"Licenses are important only as long as they remain economic. And there may come a point, and fortunately we haven't reached it yet, where licenses may become more expensive than they

are worth," says EA's Kennedy. "An alternative, of course, is to develop your own title and build your own brand," offers Flock, "but this costs a lot. And you've got to have a great product. When you look at a license to put on a title to help it in the market, you're recognizing that you've got something good, probably average. But if it's really a first-rate title, then in most cases, you'll take the shot yourself and try and establish your own *Sonic, Mario,* or *Crash Bandicoot.* But this requires

gadgetry," he comments. "This translated well into an interactive game because gamers got to play with the same stuff that Tommy Lee Jones and Will Smith played with in the movie."

"You have to get to the essence of what makes the movie tick and then try to re-create this for the game," says Castle. "You must also consider the licensed property before you've even done the beginnings of a game. I'm fundamentally opposed to going to licensers with products that

and number of each player on his jersey and his club's logo on the sleeve of his uniform. And if they're not the real names or the real logos, then the consumers notice." His conclusion? "You have to have these features. And this means that you have to have the license."

"Ten years ago my job wouldn't have been so important," concedes MLB's Schlacter, who negotiates licensing deals with game companies. "Back then having real stadiums and real teams in a game didn't matter so much because the technology didn't allow you to re-create them in any kind of detail. But now gamers demand fully licensed, fully authenticated products. And if a baseball game doesn't have all of the licenses, then it's going to find it very difficult to compete."

EA's Kennedy agrees. "As technology now enables us to render players in a more realistic way and use more realistic graphics, the value of the team marks and logos and the value of the players' licenses have increased over time," he observes. But better graphics aren't the only thing driving this trend. "We've not only seen an

> Previously, many license holders have been accused of being **interested only in making a quick profit** at the initial contract signing — **and to hell with the quality of the game**

a huge investment in marketing. Pulling this off is the game industry's home run — it's more than that, it's two grand slams in the same inning."

Companies looking to break into the sports market can begin by staying clear of the four major sports of baseball, football, hockey, and basketball. They can start building their brand with more diverse sports and then start competing with the big boys once they've gotten the ball rolling. "With some of the more obscure sports like, say, rally racing — nobody knows who those drivers are, they don't care, and so you can get away without having a license," advises Keller.

But if a company is determined to follow the mainstream licensing route and start negotiating with the movie studios, then there is definitely a smart way of going about it. "You can try and nurture some sort of relationship with a movie studio at a very high level, so you can either grab a property before it gets into major bidding or else you have to have a lot of money in the bank," says Perry. "So if you're smart you use your contacts and get in early, if you're rich you throw money at it. Either way you end up with the same thing."

In terms of what movie licenses make the best games, it's generally obvious — and companies should ignore attempts by studios to talk them into foolish alternatives. "It's amazing the types of scripts that we get submitted to us," reveals Flock. "We were even asked to consider *Jerry Maguire* for a game, but we couldn't come up with any ideas as to what to do with it. Definitely the sci-fi and action-oriented movies are the ones that best cross over to games. You want the movie to have a pretty simple, easy-to-understand, high concept. You don't really get to develop much depth of character in today's games." Sony Signature's Caplan agrees. "What sort of movies make the best games? A good example would be *Men in Black,* in which there were a lot of action sequences and a lot of cool weaponry and

are already up and running because this way you're not designing the product around the license, and it's rare that you'll have a natural fit."

The renaissance of the license

In 1998 it seems that much of the stigma associated with licenses in the 16-bit era has been shaken off. The trend of incorporating more and more content from outside sources that started in the 1980s and gathered pace in the early 1990s is now back on track. In fact, the use of incredibly diverse licenses in computer and videogames is more prevalent than ever before. On top of the perennial need to make a game stand out from the crowd, one of the factors driving this growth is the continued evolution of graphics technology.

Moving negotiated deals to produce games based on *Men in Black, Starship Troopers, Jumanji,* and most recently *Godzilla,* Sony's Caplan notes that "the improvement of videogame graphics technology has let us translate more and more of the movie's content — video clips, music — directly into a game. And this has definitely increased the potential for a game experience that re-creates the feel and excitement of the original movie." Certainly, gamers have gotten used to the idea of CD-ROM games including plenty of lush visuals, and — with the cost of creating state-of-the-art computer graphics spiraling ever upwards — many companies see off-the-shelf movie footage as an elegant solution.

But it's in the booming sports market where improving graphics technology has led to the most frenzied competition. "The need for a license has certainly grown as videogame technology has improved," says Acclaim's Picunko. "Back in the old 8-bit days, all of the players looked the same. They were small, featureless, and made up of only a tiny number of pixels. But now, with today's high-resolution graphics, soft-skin animation, motion capture, and so on, you can have the name

Disney's efforts to control the development of games based on its licenses often led to misunderstanding between game developers and animators

Goldeneye is one of the few movie translations to achieve best-seller status, even though it shipped much later than the film

increased sophistication of technology," he argues, "but also an increased sophistication of the consumer." Sports gamers have gotten used to the idea of playing as real players in real uniforms on real teams in real stadiums, he says, and there's no turning back now.

Indeed, the need for sports games to be fully licensed — because this is what gamers have grown to expect — is an imperative echoed by virtually everyone in the industry. "In the early days a license didn't really matter so much, it just made good marketing spin," says Flock. "But nowadays you simply cannot release a sports game and hope it will be successful without all the relevant licenses." Chip Lange, EA Sports' VP of marketing, concurs: "In a football game you need to have the San Francisco 49ers and you need to have Steve Young. Anything less and the customer feels that they're not getting the full package."

This demand for realism has reached such heights that it's led some industry veterans to believe that, in the sports market at least, it's become the dominant factor in deciding which games succeed and which fail. "In the sports market, licenses are such a necessity that you simply couldn't release a basketball game and not have an NBA or NCAA license," argues Keller. "Your game could even have the NBA Live engine, which seems to get the best reviews, and it could be the best-playing basketball game you've ever seen in your life, but without a license, the buyers wouldn't be interested. It probably wouldn't even reach the shelves, and even if it did, consumers probably wouldn't even glance twice at it."

Other observers aren't quite so vehement, but

they do echo Keller's belief that licenses have never been more important. "It's possible for a company to make a great-playing baseball game without a license. And sure, gameplay is very important," says Schlacter. "But if you ask gamers what they want in a sports game, they will be the first ones to tell you that they want the real players, the real teams, and the real ballparks." Lange adds, "Customers always vote gameplay first. But right now there's enough competition out there that offers the full package — both great gameplay plus all the licensing — that it would be very difficult to enter the sports market now without them."

Of course, on top of the expectations of gamers and the opportunities facilitated by better graphics technology, the main incentive for publishers to use a license is the need to stand out from the crowd. Competition for consumer dollars is as hot today as it has ever been, and with game development costs rising, publishers will do whatever they can to give their games that "extra something" to grab players' attention.

"Certainly one of the reasons licenses have become so important is because competition in the market is so intense," says Acclaim's Picunko. And in every area of gaming — from flight sims to arcade pool games — it's believed that a license can make the difference between fame and obscurity. A good example is the racing genre. "Racing games have been tremendously popular on 32-bit, and there are a ton of them out there," explains EA's Royea, "and if you want to stand out

can about a particular sport or time period, and then make up a list of all the licenses we need to get," explains Papyrus' Lescault. "But often times it's incredibly difficult and can take months. Often, the people we're talking with won't really know what a computer game is. Either that or their organizations simply aren't geared to handling the kind of requests we're making. For example, with Grand Prix Legends, we couldn't use Dunlop tires because the U.S. office of Dunlop couldn't grant us worldwide rights. We would have had to contact eight to 12 Dunlop companies worldwide to include Dunlop tires in the game, and we couldn't justify this expense."

The fact is that digging around for obscure licenses off of the beaten path doesn't guarantee a better deal for the money. If anything, the legal entanglements and logistical difficulties associated with this approach make it the sole domain of niche game developers and, occasionally, a labor of love. The real licensing business remains with the sports organizations and the movie studios.

Poetic license

One thing is for sure: Computer and videogaming's links with the real world are only going to solidify. As gaming matures and evolves from a niche, adolescent male audience into a mainstream medium, the breadth and scope of content are going to grow accordingly — and this means more licenses. The continued forward march of graphics technology will also enable the inclusion of more

Godzilla seems like the perfect license, but even previous incarnations have had trouble turning the concept into a fun game. Maybe Sony's take on the new film will fare better

games getting stronger because it's pretty clear that the convergence is on," says Castle. "But does that mean that there won't be room for original properties in interactive gaming? No, not at all. I believe it will separate the wheat from the chaff. There will be a few properties that suck up all the attention, money, and energy. And most of the secondary, not quite so well-planned, not quite so well-thought-out stuff, is going to fall by the wayside. Gaming is going to become even more hit-driven than it is today."

But perhaps the biggest reason to be cheerful is that things may turn around. Right now, the videogame industry is clearly subordinate to Hollywood and the other major license holders in the whole process. As a result, game companies get the short end of the stick in negotiations and have relatively little power to change the way the process works. As the game industry continues to grow, however, it will command more weight in negotiations and eventually start calling the shots on its own terms. Already such notable original videogames like Mortal Kombat, Mario, Sonic, Earthworm Jim, and even Primal Rage have enjoyed licensing success of their own with movies, comic books, TV shows, and action toys (and the Tomb Raider movie, which recently received the green light in Hollywood, is rumored to have a $150 million budget). As this trend grows, and as videogame companies continue to grow strong off of original properties, they will increasingly use licenses on their own terms — and this has to be good news for gamers.

> "The videogame industry has largely brought this upon itself **after years of doing really shoddy jobs of slapping licenses onto products** that were really inappropriate. We are now paying the price for this"
>
> — Louis Castle, executive producer, Blade Runner

from the crowd, you have to have points of differentiation." While working with Need for Speed, EA's solution to the problem was to license real-world cars. "It's about having a salable hook," Royea explains, "and the fact that Need for Speed was the only licensed car game on the market undoubtedly helped make it a success."

Away from the high-octane worlds of movies and sports, the licensing business is slower-paced, but the business of acquiring licenses is often no less arduous. Papyrus has built a reputation making super-realistic driving simulations like the imminent Grand Prix Legends and spends a lot of time tracking down and acquiring obscure licenses from all over the word. "We visit the tracks, take photographs, and make notes, learn everything we

and more real-world content.

"In the future videogame players will look more and more like the players, the ballparks will look more and more like the real ballparks, and hopefully the gameplay will get better too," predicts Schlacter. "Already it almost seems that we're getting to the point where the games can almost fool you for a second, and you might actually think you're watching a real game. We're not quite there yet, but you can bet that the game publishers are working on it."

It's also important to remember that a bright future for licensing needn't necessarily be at the cost of original titles such as Quake, Command & Conquer, or Tomb Raider. "I would never bet against the tie-in between movies, books, TV, and

Behold, the day of the Lord comes, cruel, with wrath and fierce anger, to make the earth a desolation and to destroy its sinners from it.

Isaiah 13:9

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Previews as pure as the driven snow

Something old, something new. Some months, it seems as if every game is bringing new technology to venerable (or returning) properties and gameplay ideas. And so it is for the month of July ...

54	**Knockout Kings**	Multi
	Can EA Sports do boxing too?	

63	**Daytona 2**	Arcade
	A Model 3 update to a classic racer	

54	**BattleTanx**	N64
	An N64 title from 3DO, you say?	

63	**Crash Bandicoot 3**	PlayStation
	You knew it was coming. Here it is	

73	**Creatures 2**	PC
	Those adorable Norns are back	

73	**Skier's High**	Arcade
	As close as you can get without snow	

76	**Harrier Strike Force**	N64
	Can N64 use an accurate flight sim?	

73	**Return Fire II**	PC/PSX
	A cult classic gets a new audience	

80	**Nooks & Crannies**	PC
	Artificial Life meets C&C	

82	**Jackie Chan Stuntmaster**	PSX
	Jackie gets mo-capped	

milestones

53

Knockout Kings

The juggernaut of sports marketing licensed the best collection of boxers for any game ever. But can the company create a title worthy of their names?

Format:	PC/PlayStation/N64
Publisher:	EA Sports
Developer:	Press Start
Release Date:	Fall 1998
Origin:	U.S.

Three years ago Electronic Arts shamed the name Muhammad Ali with a boxing title for the 3DO that was so substandard that it didn't even warrant the name Peter McNeely, never mind that of the world's greatest heavyweight. Aware of the disappointment that was Foes of Ali, the company, accustomed to running successful franchises, almost let the Ali license expire

But not before a vision came to EA's Vice President of Production Michael Pole and Producer Keith Orr. Instead of building a boxing game around one or two fighters, why not create one that would encompass the entire sport, with lightweights and middleweights included alongside the heavies? Thus began the year-long pursuit of exclusive contracts with Sugar Ray Leonard, Oscar De La Hoya, Evander Holyfield, and current lightweight champ Shane Mosley. And now, after securing the rights to these fighters through the end of the century, EA

Sports is ready, on paper anyway, to launch yet another sports franchise.

But the company has not stopped there. In a world where champions are hard to come by, and in a sport where they're less likely to behave responsibly outside the ring, Electronic Arts has succeeded in not only maintaining its contract with Ali, but also signing nearly every other respectable fighter in the sport. This includes 35 nonexclusive athletes like Larry Holmes, Marvin Hagler, and Roberto Duran, as well as old-timers like Joe Lewis, Jack Dempsey, and Rocky Marciano. The only current notables EA opted to avoid were George Foreman and a certain excon with a penchant for biting

Fans of "the greatest" will immediately recognize the techniques as well as the antics of Ali in these screens. In this fantasy match between Muhammad Ali and Evander Holyfield, Ali has cut Holyfield under his left eye

Butterbean's crouched, protective stance is his natural one, but defensive controls will figure heavily into the game

Uppercuts, jabs, kidney punches ... they are all in there and can be seen in these PlayStation shots

In fact, the company has done such a fantastic job of tying up fighters that when Nintendo went to round some up for its planned game, it found precious few left. And EA President Larry Probst's response to a letter from Nintendo President Howard Lincoln inquiring about sublicensing one of the fighters? Thanks, but no thanks.

"It wasn't our intention to lock up everybody in the industry," explains Orr, albeit not entirely convincingly. "EA Sports is a recognized label, and athletes want to work with EA Sports. So when we do these deals, it's beneficial for both parties to do an exclusive arrangement, and that's just how we do business."

The game itself will feature two modes: exhibition and career. In the career mode players create boxers in one of the weight divisions and bring him up through a tree of 20 contenders before fighting for the title — and defending it. In the exhibition mode, players choose any of the champions from the respective weight classes and pit them in a fantasy match. And just as John Madden and Pat Somerall play a significant role in the *Madden* series, boxing announcers Sean O'Grady and Al Albert from USA's "Tuesday Night Fights" will be an integral part of *Knockout Kings*. "The spirit of the game," says Orr, "is to have the greatest talent in the business — not just the boxers."

The evolution of video pugilism

Boxing games are a fantastic measuring stick for the growth of videogames. As technology enables developers to closer replicate the human body in motion, boxing games continue to look increasingly better. Here's a look back to where it all came from.

Boxing
Publisher: Activision
Platform: Atari 2600
Year: 1980

This top-down brawler was Atari 2600's first boxing game. The first player to reach a hundred hits knocked out the opponent.

Boxing
Publisher: Mattel
Platform: Intellivision
Year: 1980

The only boxing game for Intellivision, it captured the essence of the sport better than any other title of the time.

Rocky Super Action Boxing
Publisher: Coleco
Platform: ColecoVision
Year: 1983

This adaptation of *Rocky III* was the first licensed boxing game. People accusing early screenshots of being knocked up were silenced when the game shipped, looking even better.

Punch-Out!
Publisher: Nintendo
Platform: Arcade
Year: 1984

This first-person perspective boxing game may be best remembered for the phrases "body blow," "knock him out," and "Great fighting, you're an up-and-coming boxer!"

Fight Night
Publisher: Accolade
Platform: Multi
Year: 1985

A comical boxing game that played surprisingly well.

Building hype: EA took advantage of E3 to stage an in-game exhibition between Sugar Ray and the Golden Boy

Just as in real life, players must start at the bottom. Boxers will begin their careers fighting in obscure locations, against no-name opponents and equally faceless referees. But as they advance through the ranks, says Orr, "Jimmy Lennon will announce your fight, Al Albert and Shawn O'Grady will call the play-by-play, Mills Lane will be the championship referee, and you'll fight in a key arena." These venues include Madison Square Garden, the Great Western Forum, and the Grand Casinos.

But unlike in other sports games, the boxers themselves are more than just names to sell the game. EA actually brought Sugar Ray Leonard, Shane Mosley, Oscar De La Hoya, and even referee Mills Lane into the motion capture studio to record their respective styles and signature moves. So Leonard did his bolo punch and some of his famous defensive moves while De La Hoya performed some of his great maneuvers. Mosley even emulated some of the fighters who weren't present, including Ali.

The team at Press Start also created a sophisticated intelligence so that it could re-create the essence of certain fighters. The developers accomplished this by going through hundreds of boxing tapes (some borrowed from Mills Lane) to get the necessary reference to drive a signature move list. "Basically," says Paul Shaw, lead programmer and co-founder of Press Start, "it enables us to give the learning portion of the game AI to EA's producers and actually have them [take the controller and play] in the style of a particular boxer, and [the AI] learns and reproduces that style. So when you play against Muhammad Ali, he's

going to be Muhammad Ali. He's not only going to do his moves, but he's going to behave like him."

Skeptics may question

EA's ability to pull off a good boxing title with a history that includes the disastrous Foes of Ali and the mediocre Punch-Out! wannabe, ToughMan Contest. But Orr, who has been with EA for five years, assures **Next Generation** that the only things carried over from these titles are several of the licensed boxers as well as Butterbean, two-time winner of the actual ToughMan Contest and the final boss in that game. Random, perhaps, but the crew at EA says that it found "the Bean" too irresistible, citing him as the "undisputed king of the four rounder."

Otherwise, the game has been built

With blazing hand speed, Oscar De La Hoya sticks and moves for the motion capture session (top). At De La Hoya's training camp (above), a tentative Michael Pole, EA's VP of production, spars with the champ

Championship Boxing Publisher: Sierra Platform: Multi Year: 1995 Boxers of all generations fought one another in dream matches.	**Real Sports Boxing** Publisher: Atari Platform: Atari 2600 Year: 1988 Atari's third generation sports brand may have looked great, but it wasn't as fun to play as Activision's Boxing.
TKO (a.k.a. King Hey for NES) Publisher: Data East Platform: Arcade Year: 1987 The first arcade boxer to give players the ability to allocate training points for punching power, stamina, or speed.	**Champions Forever** Publisher: NEC Platform: TurboGrafx 16 Year: 1988 Featured fast, detailed sprites in a limited play area. The first effort by the team responsible for 4D Boxing.
Mike Tyson's Punch-Out Publisher: Nintendo Platform: NES Year: 1987 One licensing deal that Nintendo wished never happened. Despite this, it was better than its arcade predecessor in many ways and remains a highlight of the NES era.	**James "Buster" Douglas Knockout Boxing** Publisher: Sega Platform: Genesis Year: 1990 Nintendo's licensing success with Mike Tyson may have spurred Sega to acquire the Douglas name. After all, he was the only boxer at the time to defeat Tyson.

In the three-round, arcade-style Slugfest mode, players will have the option of turning off the penalties, enabling them to land a variety of unchecked, illegal hits

few 32-bit boxing games available have made a sluggish leap to 3D. "I really haven't seen any good contenders in the 32-bit boxing category yet," he says "We're focusing on the gameplay, giving the user something they can control. There'll be snap to the moves, and they'll have some power behind them."

Of course, the brutality of the sport has not been ignored by the designers, and the punishment a fighter takes will be a dramatic part of the visuals "We'll have swelling with their faces, we'll have cuts, bleeding," says Orr. "Mouthpieces will fly out, sweat will fly off. We'll have penalties, low blows, shoulders, elbows."

While the boxer models boast

between 750 and 800 polygons, they feature limited texturing, giving the characters a stylized look. However, Iuppa feels that overtextured bodies conflict with the motion data and lessen the realism. "We like a sort of more illustrative kind of look to our boxers," Iuppa says, "where you know who it is, and they look cool and slick without going overkill on the muscles and faces." Shaw adds, "Our models are continuous skin models ... The arms aren't pinned on like a Ken doll, and it would look very strange with a texture on a continuous skin model."

But more important than the graphics, says Orr, is the detail of the engine. "If I throw a punch and it goes halfway before landing, it's less powerful than if I had the full extension." Orr also stresses that the same inverse kinematics system enables punches to track a moving opponent so that fights will have a much

from scratch, with a new design, engine, and developer, and more than 600 fresh motion-captured moves for the game. With an alpha version having been shown at E3, the developer's challenge now lies in making the game worthy of the player's time.

"It has to have the feel of great fighting games and sports games," says EA's Associate Producer Tony Iuppa. Iuppa, who has been integral to the design, admits the

greater sense of realism.

Considering this intense level of detail and the amount of money it is going to cost EA to launch this franchise, one would think the company would have raffled behind a more veteran developer. Instead, EA chose relative newcomer Press Start, a company that has yet to publish a PlayStation title and whose only previous credits are Saturn ports of EA's NASCAR and Andretti Racing. Shaw, however, does not see this as a problem, stating that included in his staff of 21 employees are people from EA, Atari, Capcom, Acclaim, and Accolade. And EA seems pleased with

the progress. Both Orr and Pole say they are happy with Press Start's work, and if the game comes off as well as they believe it will, this developer may be making EA boxing games for a long time to come. Considering boxing isn't a seasonal sport and EA's contracts with these popular pugilists are long-term, it will be interesting to see how much time it takes for the number one-ranked publisher of games to get back in the ring after this one ships. Until then, **Next Generation** hopes the three-hit combination of quality licenses, new technology, and solid game design make this one a knockout.

At press time, Leonard (top), De La Hoya (center), and Lennox Lewis were just coming into the game

Managing fatigue and increasing stamina through training will be important factors in going the distance

Prize Fighter
Publisher: Digital Pictures
Platform: Sega CD
Year: 1993

The first FMV boxing game featured famed ring announcer Michael Buffer and met with the same criticism as classic Laserdisc games. Players preferred the freedom of motion of other boxing games.

Super Punch-Out
Publisher: Nintendo
Platform: SNES
Year: 1994

An update of Nintendo's boxing classic that was released near the end of the SNES era, this time without Mike Tyson.

ToughMan Contest
Publisher: Electronic Arts
Platform: Genesis, 32X
Year: 1995

A game based on the ToughMan Contest, where players fought without rules and Butterbean was boss.

Foes of Ali
Publisher: Grey Matter
Platform: 3DO
Year: 1995

Virtua Fighter meets boxing. The second true 3D boxing game featuring texture-mapped polygons, multiple camera angles, and zero gameplay.

Center Ring Boxing
(a.k.a. Victory Boxing)
Publisher: JVC
Platform: Saturn
Year: 1995

The last console boxing game. Features included a career mode and the option to train female fighters.

APBA Pro Boxing
Publisher: Mirosleque
Platform: PC
Year: 1995

A hardcore stat-based sim, this game featured lots of text and no direct control over the boxers.

59

An interview with

Sugar Ray Leonard

During Ray Leonard's four-hour motion capture session with EA Sports, the boxer graciously declined to use a towel, explaining that he liked the feel of the sweat. The former welterweight champion of the world and Olympic gold medal winner did cheerfully towel off, though, before going toe-to-toe on game development with **Next Generation**.

NG: Assuming EA approached you, what really inspired you to go ahead with this videogame?

RL: Well, I think it was the initial meeting of Michael Pole and the rest of the staff, the rest of the guys that create these incredible games. It was through their creativity and their minds and their innovations that I wanted to be partners with these guys. I think the sky's the limit because they've come up with greater graphics and it's real. I mean, that's why I want to participate from a physical standpoint, because I play these games and my son plays these games, so I'll have an upper hand with these guys.

NG: You probably didn't have to agree to do the motion capture session. Obviously, a lot of the other boxers that they've licensed aren't going to be participating. Are you of the opinion that no one can move like you?

RL: No. No, really, I actually believe that because it is a depiction, it's my character, that it's only right for me to participate in this fashion. But you know, I've learned so much today. It was fun. It was entertaining, and I see that it can really make the game a lot better.

NG: O.K. The motion capture session you did today wasn't too strenuous, but it was a bit of a workout. Do you still keep in shape?

RL: I still work out every day. You know, today was a collaboration of different minds and creative minds — my experience in the ring and their experience with technology and animation. So it made a great team.

NG: Were you expecting to do what you did today?

RL: I didn't know what to expect, to be honest with you. I just wanted to be involved to gain experience, to gain some knowledge, and I was able to walk away with that.

NG: Other than lending your name and your moves to the game, what else are you going to be doing with EA in order to help develop it?

RL: Well, you know, as a consultant. [Pauses] I mean, I think there are just so many other things that I could get involved with. But that will take place in due time. Right now I just want to see this game come out.

Because it's my character, it's only right for me to participate

NG: You'll be lending some of your voice to the game as well? You'll be going and doing some voice recording?

RL: You know, I would do whatever it takes to make it successful.

NG: What would you consider to be some of your career highlights?

RL: Oh, without question, my fight in 1987 against Marvelous Marvin Hagler, my fight to unify the welterweight title against Thomas Hearns back in September of '81, and when I captured the crown in 1979 against Benitez. And then the ultimate indeed was the Olympics in 1976, the gold medal.

NG: Who would you say your toughest opponent was?

RL: My toughest opponent was Roberto Duran, 1980, Montreal, Canada. And Thomas Hearns. I mean, I had a number of incredible, tough fights — Thomas Hearns, '81, Roberto Duran, 1980, Benitez, 1979 — a lot of tough fights.

NG: Hagler, '87, that was a decision, wasn't it?

RL: It was a decision, yes. It was a tough fight too. But all those guys are true champions in their own right.

NG: What have you been doing since your retirement?

RL: Collaborating with EA [laughs].

NG: How many years have you been retired now?

RL: Who's counting? I'm having a great time. Playing a lot of golf, playing with my kids. Life is great.

NG: One of the things this game is going to enable players to do is pit boxers like yourself against other boxers from current and previous decades. Obviously, they're trying to capture you in your prime, Oscar De La Hoya in his prime, different boxers from across these different eras, and then allow players to take part in these fantasy fights. You know, what if Sugar Ray got to fight Oscar De La Hoya? If you had that opportunity in real life, who would you have liked to have fought?

RL: You might not have to wait to see what would have happened against me and Oscar De La Hoya. There's something taking place now as we speak that could be a major surprise. Who knows.

NG: Really. Coming out of retirement to fight Oscar De La Hoya?

RL: We'll see ...

NG: Last question, Ray. Who would win in a fight, Mario or Sonic?

RL: [Pauses] Slight edge to Mario.

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Daytona 2:
Battle to the Edge

Sega enters the next lap with this year's most anticipated arcade racer

Format:	Arcade
Publisher:	Sega
Developer:	Sega
Release Date:	TBA
Origin:	Japan

O n February 19, 1928, the British-born Sir Malcolm Campbell and his Bluebird, with its 1,464-cubic-inch Napier aircraft engine, rolled onto the sands of Daytona Beach, Florida, and the 25-mile-long stretch known as the "best surface to set land speed records." Campbell eventually went on to become the "Speed King of the World," and gamers will soon be able to share the same exhilaration in *Daytona 2: Battle to the Edge*.

The game is a significant advance over its popular predecessor. Immediately following the rolling start, players must contend with exploding cars at high speeds, so clearly the pit area will be more than just decoration during the game. Physics is applied to every object, whether it's a smashed car or severed side panel, and the increased hardware performance makes room for the rendering of 40 vehicles at once — including their interiors. While the game bears the official Daytona name, it also gives players the option to race on fantasy tracks, from a theme park to a future world.

How will this be accomplished? With a modified Model 3 board. Sega also took the time to improve the cabinet. The steering wheel and seat provide force feedback while the impressive sound system ensures that players will feel the explosions and music in their chests.

Sega's arcade brand has produced some of the more impressive racers lately, but *Daytona 2* is by far the most anticipated. And if history lends any insight, it won't be surprising to see this game appear on Sega's next console.

When driving at speeds in excess of 200mph, braking becomes much more difficult and can easily cause a car to lose control

New tracks take players through futuristic theme parks and open-throttle straightaways with an emphasis on speed

Players can still play the game from their favorite camera views

BattleTanx

The house that Trip Hawkins built (and no, we don't mean EA) is slaving away on its first N64 title — that's right, N64

The majority of the landscape is eminently destructible. Buildings collapse and burn on impact

Format:	Nintendo 64
Publisher:	3DO
Developer:	3DO
Release Date:	Q4 1998
Origin:	U.S.

It's been almost two years since 3DO got out of the hardware market to concentrate on becoming a software publisher, and the time has come for the company's first move into publishing for Nintendo 64.

It's a carefully thought-out move at that. "You have to be very selective," says President Trip Hawkins. "You don't want to just push out a whole product line and take your chances. It costs about $25 a unit for a cart of any kind of memory size, and if you're going to fill the channels with any kind of decent game, you're going to wind up buying at least a couple of hundred thousand, so now you're up to $5 million ..." He smiles and pantomimes rolling dice. "You've got to be sure of what you're doing."

Being sure, in this case, means finding a niche that hasn't been filled in the N64 market. "I was looking for holes in the product lines," says Michael Mendheim, design director, "and I realized it had no tank games, and thinking back to a lot of tank games I'm familiar with, I thought of *Tokyo Wars*."

The game's central conceit, however, puts a decidedly odd spin on the backstory. "We needed a way to make it interesting," Mendheim explains. "Trip [Hawkins] ... saw it as *Road Warrior* with tanks. So ... we needed a goal, and we asked ourselves, 'If you're in the post-

apocalypse, what's worth killing for?' Then the resources came in — you need oil. Well, *Road Warrior* did that. You need money. Well, money doesn't exist anymore. So O.K., way down near the bottom of the list was women."

In the *BattleTanx* universe, a terrible plague has wiped out 99% of the Earth's female population. In the chaos that ensues, WWIII breaks out, reducing what little society is left to a number of tribes armed with tanks, roaming the blasted landscape. And if you happen to be one of the remaining women? "She's treated like a god," Mendheim says. "She's the

Like all good N64 games, *BattleTanx* sports two- and four-player modes

Comparing the original concept art (top) to the nearly finished product (above) shows how much more ambitious the textures have become

One of *BattleTanx*'s more impressive special effects is the Nuke — an effect that was consciously patterned after the "end of the world" sequence in *Independence Day*. It unleashes a shock wave that simply levels everything

only means of sustaining the human race. She's the Queen Lord, and it's her responsibility to protect her tribe and to grow it. She needs to be able to defend her city environment from renegade clans and other queens. So the Queen Lord makes her noblest and bravest warrior a Battle Lord, and his responsibility is, first and foremost, to protect the queen, but also to go out and secure other queens." Hmmm, indeed.

While the final game will feature 25

There's something basically satisfying about razing a city, and *BattleTanx* gives players a chance to do just that

different environments, only the first, Chicago, was viewable at press time. This single city, however, is indicative of the team's vision. Art Director Peter Traugot says, "Anybody who's ever been to Chicago, we've matched it point-for-point, from the Picasso to the Chicago Theater. If you drive down Washington, you will recognize the street."

So, working from location pictures and reference materials (Mendhiem claims, "We got references on everything down to the lampposts"), the team has painstakingly attempted to re-create downtown Chicago. And while he won't, as yet, confirm which other locations will be used, Mendhiem insists, "You'll be able to recognize them right away."

This commitment to environmental realism extends beyond the cosmetic, though. "Building the city was only half of it," Mendhiem continues. "Now we have to be able to destroy the city. The environment has to be different when you're done playing than it was when you started. So we wanted collapsible buildings, and our first couple of morphs and animations just didn't look real ... So we got a tape from this really bad Fox special that's nothing but buildings collapsing — like 40 minutes of that! And I say, 'That's what I want.' So Rob [Zydbel, director] and Peter [Traugot] are ready to shoot me, but they did it. We keep pushing and keep doing it."

At the end of the day, however, the emphasis is on how it plays. "This game can be played two ways," Mendhiem finishes. "You can play this game by yourself, really get into it, get into the fantasy, or you can have three friends over, have some beers, lay a couple of bucks on the table, and go" ng

The actual Chicago theater (top) and its in-game model (above)

65

NEXT GENERATION salutes those who **get it.** (...through.)

Crash
Bandicoot 3

The Naughty Dog team is taking its money-making marsupial to the next level — can it do it in just nine months, though?
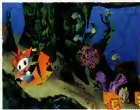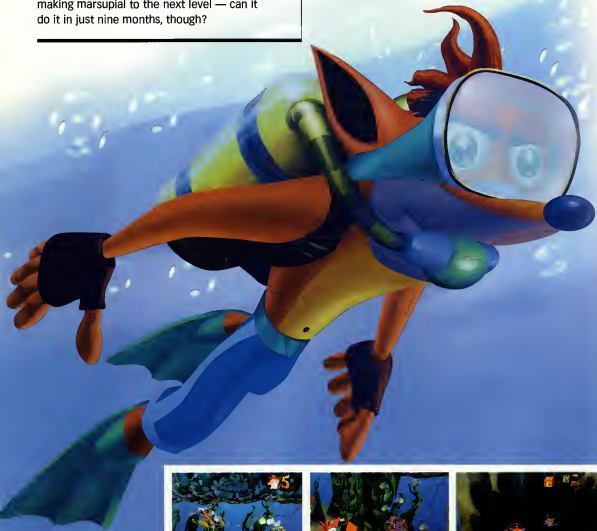
Crash 3 seeks to offer the gamer less limitations with a variety of contrasting levels from (yes) an underwater world

78%

8/7

Format:	PlayStation
Publisher:	SCEA
Developer:	Naughty Dog/Universal
Release Date:	Q4 1998
Origin:	U.S.

C onsidering the goofy grin he's usually wearing, Crash Bandicoot may be the happiest game mascot ever. He's big in Japan, where he has his own popular dance, and he's big in America, where he's dominated commercial airspace the last two fall seasons. And with improvements in graphics and gameplay, Naughty Dog is betting the bandicoot can make it three great years in a row.

In this third installment of the series, Crash must pursue the evil Neo Cortex across time, snooping in places like medieval England, ancient Egypt, and China during the building of the Great Wall. Of course, his journey also includes a speculative jaunt into the future.

After the somewhat predictable antics of Crash 2, Naughty Dog is not only enhancing the game's core technology, but also integrating several additional engines. Crash 3 should also bring some

to the Great Wall of China

surprisingly new gameplay elements that radically depart from the style of the first two games. Naughty Dog President and Producer Jason Rubin explains: "Crash is all about being in class," says Rubin. "It's got a very strong kind of challenge-based gameplay. But you're also gonna see some levels that I consider recess — they are very different, they're kind of 'chill out, have fun, do what you want to do.'"

The new gameplay elements Rubin is referring to appear in the form of several free-roaming levels, all of which are vehicle-based. One level shown to **Next Generation** had Crash piloting a biplane, gunning down huge zeppelins and swarms of enemy planes. Playing the level was reminiscent of Sega's Nights — the flight mechanic felt just as free-form on Sony's analog Dual Shock controller, but Crash's biplane experience offered total 3D freedom and a touch of intense air combat. **Next Generation** expects that the other free-roaming segments will have a similarly liberating feel.

The new free-roaming gameplay will make up about 30% of the game's 30 or so levels, with the other 70% staying faithful to the original's run, jump, and spin play style. That 70% remains linear, but Rubin insists there have been plenty of enhancements — Crash gets in scuba gear and heads underwater for several levels, for instance. "We built this entire underwater scene," says Rubin, "and gave Crash a new control scheme, which is Crash with scuba gear, and halfway through the level you find a submarine that you can ride on, and it fires a missile, and it's completely gratuitous."

While the developers have abandoned the jetpack from Crash 2, they have littered the game with vehicles. Crash rides several

Naughty Dog is working hard to add plenty of variety to the game, moving away, whenever possible, from the linear "tunnel-run" of the previous Crash titles. This biplane section enables players to fly anywhere they want

69

Crash spans the globe (and time) in search of more engaging gameplay — he seems to have found it

new animals, including a baby T-rex, which players can ride, Yoshi-style, at their leisure. Of course, in keeping with tradition, there will be several "forced scroll" levels not unlike the boar ride or baby polar bear ride from the original Crash and Crash 2. Once again, players will have to navigate a speeding beast through a careening level with Crash being dragged along for the ride.

Beyond that, Crash will pick up some new moves throughout the course of the game, including a double jump, a fast run,

an extended spin, and a power belly flop. At one point, he even acquires a Bazooka. When the double jump is combined with the extended spin, Crash enters a floating glide that extends the lengths of his jumps.

One of the minds behind the innovative gameplay is Universal Interactive's Mark Cerny, who is at the design helm for Crash 3 (see Talking, page 8), sharing the level design responsibilities with Naughty Dog's Daniel Arey. Arey is a former Crystal Dynamics employee who assisted in the design of the original Gex and acted as a senior designer on Gex: Enter the Gecko. Several other key Crystal employees, Evan Wells, another Gex: Enter the Gecko senior designer, and Danny Chan, senior programmer, recently signed on with Naughty Dog as well.

Remarkably, the company started Crash 3 in earnest on January 6 and plans to finish it by October. Much of what makes this tight schedule possible is the fact that the engines are being refined by two programmers and Naughty Dog co-founder and coding guru Andy Gavin. For the original Crash, Gavin created his own programming language called Gaming Oriented Object Lisp (GOOL), a compiled Lisp that spits out PlayStation assembly language. "Pretty much everything that moves on the screen is written in that language," says Gavin, who's using GOOL2 for this project and has been quietly working on GOOL3 simultaneously. What

Beautifully drawn and textured environments are trademarks of the Crash franchise. These underwater levels are no exception. Crash also gains another outfit ...

The medieval level is another linear dash but with some nice touches like this ungainly broadsword-wielding foe

The Looney Tunes humor still pervades in Crash 3. Here, the money-spinning marsupial disrobes a passing aged wizard, who, fortunately for us, is properly attired in magical undergarments

are the benefits to GOOL? "GOOL allows us to write new gameplay schemes," Gavin says, "and rewrite them and rewrite them really fast." Gavin explains that a good control scheme may need to be rewritten dozens of times before it's perfect. "You have to be able to throw out what you've done on programming control really easily," he continues, "and that's one thing GOOL is great at. You can just rip out code and throw it back in."

Beyond developing exacting control systems, the programmers have also started implementing new graphical features. Crash's worlds have been opened up a little wider, and like Insomniac's Spyro the Dragon (see NG 43), fog is virtually nonexistent. Underwater lighting effects are not just the lightening and darkening of vertices as in Tomb Raider — the lighting is actually realistically tied to the patterns on the water's surface. The environments are even more densely populated with objects, and there's better background eye candy. But one of the things that makes Crash really stand out is the character's animation system, which Rubin describes as the unsung tools that have helped Crash retain his quirky character.

"Not only can you do bone rotation," says Rubin of the PlayStation standard animation, "but you can squash and stretch and do things that make the character more cartoonlike. It allows you to do a lot of interesting things to the shape of the characters, for deaths and other animations," Rubin demonstrates this a moment later by deliberately

steering Crash into a swollen poisonous blowfish, causing him to swell to an equally humorous size.

Many veteran gamers talk about how tired they are of monotonous platform-hopping adventures, and with good reason. But the veteran game makers at Naughty Dog are relentless in their quest to keep things fresh: Crash featured a standard gameplay experience, Crash 2 upped the ante, and Crash 3 attempts to take Sony's flagship marsupial to a new level in gameplay. And despite the short production schedule, with an experienced team of designers and programmers, along with Andy Gavin's robust tools, there is an excellent chance of pulling it off. **ng**

Keeping it in the family: Crash Bandicoot's sister Coco is now a fully playable character, as Naughty Dog added yet more variety

Creatures 2

CyberLife has redesigned the Norns' world of Albia using prerendered graphics instead of the hand-drawn art of the original

Those adorable Norns are now smarter than ever — so how smart will we have to be to keep up?

Format:	PC
Publisher:	Mindscape
Developer:	CyberLife
Release Date:	Q4 1998
Origin:	U.K.

The original *Creatures*, released last year, introduced Artificial Life to the masses in the form of Norns, an undeniably cute virtual species that could learn, grow, and breed new generations right on the computer screen. But as fun to play with as the Norns were (and are), there's always room for improvement. CyberLife's Toby Simpson explains "One of the many things we've learned since the release of *Creatures 1* is that the plausibility and overall intelligence of the creatures are directly linked to how real and detailed the components that make them up are. In *Creatures 2*, we provide Norns with considerably more sensory input, more actions they can take, and improved brain dynamics."

Creatures 2 will feature new and improved Norns with an additional 150 genes and 40 chemicals in their organic structure. They will also, for the first time, have an internal organ structure. They're also smarter and able to communicate better, with a greater variety of facial expressions — they should even be able to form relatively complete, if simple, sentences.

The Norns' ecosystem is also getting an overhaul. This world is much larger than the original, with a new seasonal weather system. CyberLife has also added a greater variety of plants and animals, which now interact with each other as well as the Norns, giving Albia a functional food chain. Albia's antagonist species, the

Besides Norns and Grendels, Albia has a new species, the Ettins

Grendels, are "far more vicious and much more of a threat in *Creatures 2*," Simpson claims, although he adds, "Fortunately, the world is over twice the size as the one in *Creatures 1*, and there are lots of places to hide and make homes."

There is also a new, third species, the Ettin, a kind of underclass that scurries about, cleaning up and moving things around. "They're relatively harmless," Simpson jokes, "except when they're running off with lunch."

Devotees of the original *Creatures* have written a number of interesting hacks, including more sophisticated "teaching machines" for improving the Norns' vocabulary, extra toys for them to play with, and even "Grenorns," a cross-breed between Norns and Grendels. "In *Creatures 2*," Simpson says, "there is far, far more potential to develop genetically specified creatures. The possibility that someone could breed and/or genetically engineer new species rises."

Creatures 2 also uses real-world physics. Norns can fall down or drop off cliffs — they're also smart enough to learn not to do it again

73

Skier's High

Konami takes gamers to the slopes with its latest sport simulator

Oncoming traffic becomes a concern when navigating some of the game's more extreme courses

Format:	Arcade
Publisher:	Konami
Developer:	Konami
Release Date:	TBA
Origin:	Japan

Stand-up arcade cabinets with just a control panel and monitor are fast becoming relics as developers strive to create a sensory experience that goes beyond the screen. Namco and Sega are just two companies redirecting their efforts towards prop-based gaming, which provides players with the opportunity to do things like drive full-sized jeeps or

The most accurate arcade interface technology to date

perform impossible tricks on skateboards. Konami's latest effort, Skier's High, takes the next logical step, introducing gamers to the most accurate arcade interface technology to date.

Konami's patented "Active Slide System" enables players to simulate a realistic skiing experience, from standard edging control to jumps. The planned four-player Time Attack will be the first of its kind in the prop-based arcade market.

The company's goal is to take players to a level not yet seen in prop games, with slope designs that go through forests, over giant jumps, and across freeways. As overused as the expression is, the tracks are **Next Generation** has seen truly are "extreme."

Landing a jump would be difficult if it weren't for the onscreen advice

The game has two now-familiar modes of play, Time Attack and Point Attack. Point Attack is reminiscent of Sega's Top Skater, where the goal is to collect coins for time bonuses and do tricks that end in a final performance rank. Like traditional racing games, Time Attack is a race against the clock. Either way, players choose from four characters and three courses.

Konami's motto, "Direct the flood of your creativity toward the future," is befitting of a growing arcade division (it represents about 11% of the company's sales), Hang Glider was Konami's first foray into the prop-based market, and Skier's High is already shaping up to be a worthy contender in the quickly crowding genre. The game is far from complete, but Konami plans to improve the game's engine and visuals until it justifies that motto. **ng**

HOW TO PLAY ミッションクリアでしようだんは何回でもできます

Konami's patented control system enables players to perform complex maneuvers like slicing that until now existed only on the slopes

75

Harrier Strike Force

Paradigm's reputation for creating advanced
flight simulations is put to the ultimate test

The ability to take off from an aircraft carrier vertically and land using the traditional runway is something Marines have had with the Harrier jet for a long time, and with Paradigm's latest project, gamers will experience it all just short of an actual cockpit

The full array of allied weapons can be configured per mission

P aradigm's Chris Johnson is
excited. Why? Because he's
producing the company's latest
consumer flight sim, *Harrier Strike Force*.
But what really excites him — and
everyone else at Paradigm — is how
faithful the game remains to its military
simulation roots. "It is a combination of
true flight representation of the Harrier
aircraft, an original game engine, and a
new version of our Ultravision graphic
renderer," he says.

The British-designed Harrier aircraft
is usually brought in for close combat
support in military operations and is
used by the U.S. Marine Corp to protect
ground troops at close range. But how
close will the game come to its real-life
counterpart? Just as real Harrier tactics
dictate, "players can plant their aircraft a
couple of miles behind enemy lines on a
field or street and pop up for quick

strikes," says Johnson. "In addition, it can
become a full-force jet for bomb runs or
air-to-air strikes. It has great flexibility."

Flexibility is a key component in the
game's design. Both the Harrier and
Harrier Plus models will be included in
the game along with their special
features, like the ability to use radar or fly
camouflaged. Designers have faithfully
re-created the Harrier's ability to hover
like a helicopter (the two modes of flight
will use the same key mapping on the
controller to prevent confusion). With a
single N64 controller, players can take
charge of weapons, targeting, camera

Format:	**Nintendo 64**
Publisher:	**Video System**
Developer:	**Paradigm**
Release Date:	**Q4 1998**
Origin:	**U.S.**

The Harrier's versatility gives it the ability to fit in tight locations

views, flaps, landing gear, speed brakes, ground braking, throttle, and thrust.

Paradigm's experience developing simulations for the U.S. military explains the company's commitment to detail. For example, the team has modeled the Harrier's two exhaust nozzles, located on each side of the fuselage, to re-create the jet's ability to fly backwards. Management of payload resources will also directly affect the Harrier's flight behavior, even preventing vertical takeoffs. Still, Johnson is quick to point out that the focus is still on the fun. "We have taken liberties with some weapons. We're not going to include any fire-and-forget weapons. The real fun is watching

something explode."

In order to present a quality simulation on Nintendo 64, Paradigm developed a game engine specifically for *Harrier*. Despite the similarity in the names, Ultravision, the engine used in *PilotWings 64*, *Aero Fighters Assault*, and *World Grand Prix*, was only a stepping stone for *Harrier's* Ultravision 2, whose modular architecture enables the team to plug in new elements easily and efficiently, like complex enemy AI, while maintaining a rock-solid 30Hz frame rate.

Can these improvements help *Harrier* beat the mediocre sales of last year's *Aero Fighters Assault*? Paradigm

believes so. "[*Aero Fighters*] was a pretty good game, but probably not an A+ title," admits Gary Bandy, marketing manager. Despite the N64's youth-driven market, the company firmly believes that if it builds a better flight sim, sales will come. And Paradigm just as firmly believes that *Harrier* is that sim.

Paradigm has learned a lot since *PilotWings 64*. If *Harrier* succeeds in adding quality gameplay to an excellent sim engine, this could be Paradigm's breakthrough title. **ng**

"The real fun is watching something explode"

Chris Johnson, producer, Paradigm

Hot-rodding through a desert canyon is no longer a staple of high-testosterone Hollywood action films, and it may be the only way to shake off an enemy daring some of the game's more intense scenarios

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Return Fire II

Prolific proves that good war games don't die, they get facelifts

Format:	PC/PlayStation
Publisher:	MGM Interactive
Developer:	Prolific Publishing, Inc.
Release Date:	September 1998
Origin:	U.S.

The original *Return Fire* was the best two-player game to come out for the ill-fated 3DO. But by the time Prolific's ports of this realtime, vehicular game of capture-the-flag made it to PlayStation and PC, games like *Command & Conquer* had already taken the next step in realtime strategy, making one of the game's biggest failings the lack of any real single-player mode. This time, however, Prolific intends to answer the criticisms of the past, and initial impressions are favorable.

For one thing, a computer-controlled opponent has finally been added the

New vehicles like this PT Boat were created to complement the same kind of land-based action that the first game did so well

Being able to see an entire enemy complex is just one of the many advantages of having a real 3D game engine

first version's single-player mode merely littered the battlefield with enemy turrets. The AI, which uses genetic algorithms, was designed by analyzing thousands of games, so enemies are finally capable of developing strategies worthy of human opponents.

At last players are introduced to a true 3D environment. The capture-the-flag goal and classical soundtrack, however, remain intact. The PC version will support up to 16 players in either team or deathmatch configurations and will feature an advanced chat system, enabling players to share strategies with team members, or simply talk trash to opponents. The console version will remain two-player.

RFII's arsenal will also expand. Not only will there be new weapons introduced, but also a fresh set of vehicles can be deployed from land or sea. And thanks to a relationship with MGM, winning a game rewards players with much more diverse film highlights than before.

Although Prolific had an excellent first effort with *Return Fire*, the company has a lot to prove with this sophomore release, and the team has been in "crunch mode" for months to assure the game's success. Can the team pull it off? We'll find out this fall.

RFII will have a software and accelerated version

Nooks & Crannies

The creator of *Ecco the Dolphin* strikes out with a new company. Can And Now find success with Artificial Life?

Characters can be color-coded by tribe. Getting Nooks in a line is an important first step when trying to weed out the slow or weak

Format:	PC
Publisher:	TBA
Developer:	And Now
Release Date:	1999
Origin:	U.S./Russia

As game worlds become more complex and expansive, many developers will doubtless turn to Artificial Life-based characters to populate them. For now, though, scripted AI remains the rule, and Artificial Life is novel enough to support entire titles on its own (for instance, *Creatures* and *Galapagos*). Next in line is start-up And

Environmental conditions also affect it. Nooks without access to food, for example, are more stressed and more likely to fight; if a Nook sees a Cranny eat a piece of scarce food, that Nook's animosity toward that Cranny, and toward Crannies in general, will increase Nooks also communicate these emotional states to each other — it isn't too hard to start a race war between Nooks and Crannies or a war between different tribes of Nooks.

Although setting initial conditions and watching what happens are

"Basically, it's *Creatures* meets *Command & Conquer*"

Ed Annunziata, founder, And Now

Now's Nooks & Crannies.

The game has a fairly simple premise: Miners reach a remote outworld, discover the indigenous creatures (nicknamed "Nooks" and "Crannies") are easy to breed, and (prime directives be damned) start breeding them to fight.

Each individual creature has a strand of RNA — basically a huge list of characteristics. The RNA controls everything about the Nook or Cranny, from external physical characteristics to innate aggressiveness to metabolism. When a Nook or Cranny eats enough food, it reproduces, parthenogenesis-style, splitting into two nearly identical offspring. And with each division, the RNA mutates slightly. The RNA genotypes alone don't determine behavior, however.

And Now is considering toning down some of the bloodier elements

Although the game looks better close in, this is the view many will take when actually playing the game, since it affords the widest view
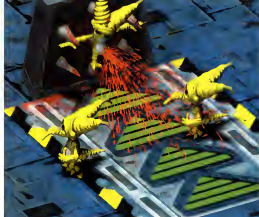
interesting, the real fun is in directing the breeding of the creatures. Line up 10 Nooks, starve them, then put some food out. See which one gets the food fastest, kill the rest, and you've selected for speed. Certain biological factors limit players from creating an über-Nook, though. For instance, fast Nooks need more food and thus can't survive as well in a resource-poor environment as Nooks with slower metabolisms can.

Playing with your private Nooks and Crannies (on a private planetoid in the game fiction) should be more than enough to entertain many Artificial Life

The real fun is in directing the breeding of the creatures

fans, but there's an actual game there too. "Basically, it's *Creatures* meets *Command & Conquer*," says Ed Annunziata, And Now's creative visionary, summing up the gameplay. The game element of *Nooks & Crannies* involves pitting a tribe of 10 or so Nooks (or Crannies, or a mix of both) against all comers. Players need to breed a diverse assortment of creatures to make a successful tribe.

The potential for incredibly deep strategy is high: Breed a Nook that hates its own tribe, and send it over to an opposing tribe. The opposing Nooks will like your Nook because it hates your tribe, their enemy. But they associate your Nook with your tribe, and as they warm up to your Nook, they also warm up to your tribe. So obliterating them becomes easier. Now imagine breeding a tribe of Nooks to defeat that strategy.

To add to the complexity, the game will also have many multiplayer options, although these have yet to be firmed up. Annunziata envisions LAN, TCP/IP, and remote or play-by-email games, in which you send off your tribe to fight without direction.

Some issues still need to be worked out before the game ships, however

As cute as they are, Nooks (and Crannies) can still die pretty terrible deaths (top left). Landscapes are ethereal and fantastic (above)

Although the 3D nature of the game works great for displaying the cute animations of the Nooks and Crannies, it is unclear how well it will work for strategic gameplaying. Also, the game has a disconcerting juxtaposition of the cute characters and the violent way they fight, with knives and shotguns. If And Now works these issues out, though, enabling the Artificial Life action itself to shine, the company could have one very impressive debut product. [ng]
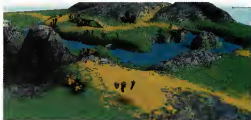
Want to raise bloodthirsty Nooks and Crannies? Scatter the ground with shotguns and cleavers, and make food scarce

Jackie Chan
Stuntmaster

Forget Bruce Willis and the aptly titled *Apocalypse*. Hong Kong's majesty of martial arts has teamed up with Radical Entertainment to bring action to PlayStation — "Chan style"

Format:	**PlayStation**
Publisher:	**Midway**
Developer:	**Radical Entertainment**
Release Date:	**TBD**
Origin:	**Canada**

Eschewing textures in favor of Gouraud shading a la *Mario 64*, Radical has succeeded in creating smooth-looking, high-res characters

The motion capture suits Jackie and his body double Andy are wearing were tailored specifically for them for this shoot

Jackie Chan's films have already transcended the Asian action market to appeal to moviegoers worldwide. And now, Chan stands poised, in a full-body, motion capture suit, to transcend another entertainment medium.

On stage, Chan is working under the direction of an animator for Vancouver-based Radical Entertainment, which contacted his agent last August. Since that time, Radical has conceptualized a 10-level game that hopes to capture Chan and his style of films more than any other license has attempted to do in any game to date. "There's a lot of fighting games out there," says Radical Producer Ian Ross, "and that's not what we are interested in doing. We want to capture the humor and the stunts of Jackie Chan. That's what gives him that special, universal appeal. He's more Charlie Chaplin and Buster Keaton."

Ross intimates that the game is essentially a 3D platformer, in which Jackie's move sets are being plagued with saboteurs from a competing filmmaker. It's up to Jackie to successfully complete film scenes (levels) by negotiating hazardous stunts while extricating the villains. "Jackie's a stunt guy," Ross says, "This is a playground for Jackie to be Jackie."

But the designers don't exactly want *Stuntmaster* to end up being a shallow beat-'em-up adventure game. To prevent this from happening, the game will reward players for doing things with Jackie's trademark panache. More points will be given for adeptly maneuvering through the environment and adapting Chan's nonconfrontational style of fighting. "You can attack an enemy hand-to-hand," says Game Designer Ryan Flemko, "but you can get more points, say, if you used a table. The more spectacular your stunts, the better your rating."

Flemko cites everything from the *Drunken Master* films to *Operation Condor* as inspiration for the design document and notes that the game, as in

every film, will maximize the use of environments. To further authenticate the Chan feel, the game is set in Hong Kong, where gameplay takes place on rooftops and in dock areas, streets, and marketplaces.

The 44-year-old Chan is as graceful in his motion capture work as he is onscreen. Yet, even if this mo-cap session were to feature just another anonymous stuntman, it wouldn't have been an ordinary one. FutureLight Studios, in Santa Monica, California, has developed an advanced system that can record an actor's movement and display it on a computer-generated model in real time. This was remarkably demonstrated on an on-set monitor on which Chan's in-game character (a roughly 400-polygon model) could be seen simultaneously performing the moves the real Chan was executing on the stage a few feet away.

In fact, this system, which has been in development for three years now, has more than 70 markers for a single character, enabling the capture of subtle movements. The capture process is precise down to one millimeter or less. The system was first used for some of the effects work in the recently released *Godzilla* film. Chan was captured moving at 30 frames per second, which corresponds to the game's frame rate. "It's also done without any delay," says FutureLight's Director of Research and Development Rob Bredow. "You get your data the same day."

At the mo-cap shoot, Chan's entourage is in full effect. With him are two bodyguards: one is a seven-time kickboxing champ and the other his body double Andy. Together they assist Chan in many of his moves and perform each stunt first to test the safety of the equipment. During the two-day shoot, Radical has had Chan doing some high-contact stunt work, hanging from 10-foot scaffolding, falling

from platforms, and doing plenty of general fighting choreography. Radical has also outfitted Andy for motion capture, using him to record many of the enemy animations.

The game is still very early in production, and Midway Producer Brian Lowe was hesitant to speculate on a release date. But Lowe pretty much sums it all up when he talks about the publisher's decision to acquire the game. "The license meshes so well with the gameplay and vision, it was a no-brainer."

Jackie Chan engages in some end-of-level, motion-captured, *Drunken Master* antics for the benefit of the fans

Even at this early stage, *Stuntmaster* seems to have all the right moves. Radical is well on its way to creating a title that falls somewhere between Core's *Fighting Force* and the adventure mode of SquareSoft's *Tobal*; for once, the license seems genuinely relevant to the gameplay

Milestones

T his month's Milestones lineup demonstrates the diversity that exists in the game industry today. Whether it's an RPG, fighter, sports game, or flight sim, the quality bar is being raised for every genre. As part of this maturing process, many game publishers are revealing franchises and licenses while producing games that look, play, and sound better than ever before.

In the months ahead, this trend will intensify as new hardware releases lay the foundation for the next console war. For now, the calm before the storm is the perfect time for developers to focus on creating better games.

Metal Gear Solid PlayStation

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DANGER
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CHAFF GRENADE X 3

Despite year-long hype, anticipation of Konami's surefire hit is higher than ever. Gamers worldwide will have to salivate over these images until the development team applies the final touches in what may become the most successful PlayStation game ever

Sacred Fist PlayStation

Parasite Eve

SquareSoft's latest PSX adventure combines the look and feel of *Resident Evil* with its trademark role-playing elements

Konami's first entry into the PlayStation fighting genre has a lot in common with its arcade cousin, *Fighting Bujutsu*. With its large fighting areas and complex models, it may be the first real contender for Namco's *Tekken 3*. Whether or not the game will utilize Konami's patented fighting AI, used in *Bujutsu*, remains to be seen

Wings of Destiny PC

Boasting more than 70 historic missions and a comic book-style interface, *Wings of Destiny* is no ordinary flight sim. Psygnosis hopes to deliver an action-packed experience that places gamers in control of their favorite World War II aircraft

Ninja

Eidos' next PlayStation title plays more like the 8-bit Ninja Gaiden and less like Sony's *Tenchu*

Redjack

THQ's PC Cyberflix adventure goes back to the days of high seas adventure in comic style

Earthworm Jim 3D *Nintendo 64*

From the looks of it, *Earthworm Jim* could be a textbook example of how to successfully convert a 2D classic to 3D

Panzer *PC*

Psygnosis delivers yet another classic World War II action game, placing players behind enemy lines and in control of one of the deadliest Nazi ground weapons, the Panzer tank. Historic missions and photorealistic environments emphasize realism

Fallout 2

The same look and classic design ideology used in the first *Fallout* will return in Interplay's PC sequel this fall

Toca PlayStation

This hit Codemasters game finally makes its way Stateside, thanks to Electronic Arts. Features include numerous environment effects and an all-inclusive 1997 RAC British Touring Car license

International **Superstar Soccer** Nintendo 64

Konami's successful soccer series gets its yearly update. New features include an official World League license (all 32 countries plus 16 that didn't qualify), a regional elimination match, finals, fresh motion capture, and new stadiums

Survivor

Konami's next project will be its second 3D action/adventure for N64 after Mystical Ninja

Messiah

Shiny's Messiah engine continues to improve — Team Ego may really have solved the polygon problem once and for all

StarSiege

With 3D acceleration and multiplayer support, Sierra hopes this action sim title will out-mech FASA and MicroProse

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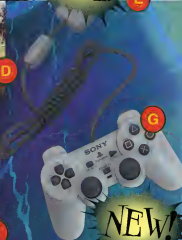
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The way games ought to be...

In search of the future of gameplay

Hamlet on the Holodeck — part two

L
ast month I started talking about a book called *Hamlet on the Holodeck* (published by The Free Press, a division of Simon & Schuster, 1997, ISBN 0-684-82723-9). It's by Janet Murray, a senior research scientist at M.I.T, and it's about the future of "interactive narratives" — or computer-based stories in which the audience gets to participate. It's only a fine line between what Ms. Murray's talking about and the future of videogames. She's got a lot to say, and we didn't have room to fit it all in last month. So here's part two...

In coming up

with ways in which interactive narrative can be improved, Murray echoes Chris Crawford's observation that "it's not what you see but what you get to do that matters." As proof, Murray offers her experiences of playing with two different *Star Trek* CD-ROMs. First, she looks at the graphically intensive CD-ROM *Enterprise*.

"The CD-ROM *Enterprise* [offers] a 'technical manual' that promises to use a 'subset of holodeck technology' to present the starship and includes a voice-over tour from Commander Riker," she observes. "The visuals are produced from video keys of the key sets from the TV series 'Star Trek: The Next Generation' and processed with a Virtual Reality tool (QuickTime VR) that lets you rotate your onscreen position 360 degrees and step forward and backward within continuous space ... The movement is so fluid, the visuals have such authority, and the representation is so complete that our visit to the Enterprise has a magical quality, it is as if we are aboard the real starship, the canonical location of the fictional world of which the television and movie representation are just copies. But after we check out all the key places — the captain's ready room, the bridge, the lounge areas on 10-Forward, the quarters of all the crew members — the visit to the Enterprise loses its immersive hold because nothing is happening there. In a digital environment we do not want to use a spaceship as a databank, the more we feel that we are actually there, the more we want to fly off on it and have adventures."

Next, Murray looks at a more gameplay-oriented product, *Star Trek: The Final Unity*. "In the CD-ROM game *Star Trek: The Final Unity*, the player has to figure out how to free a woman scientist trapped under a pipe after an attack on a power plant," she describes. "The pipe is too heavy to lift, and it cannot be

vaporized with the crew's phaser guns. The solution is to use a tricorder to record the coordinates of the pipe's location and then go down to the transporter room on the first floor to enter the coordinates into the transporter to 'lock onto' the pipe and beam it off of her. If this is done right, the pipe appears in the transporter room, materializing to the accompaniment of the familiar tinkling transporter sounds. Operating the tricorder and the transporter in this way — which really only means clicking the mouse here and there on some unspectacular screen graphics — makes the world of the game seem much more present than does the same world on *Starship Enterprise*, the more visually impressive [product]."

Obviously, giving the player things to do adds to the feeling that he or she is actually there. "The great advantage of participatory environments in creating immersion is their capacity to elicit behavior that endows the imaginary object with life," Murray concludes. "The same phenomenon occurs when a child rocks a teddy bear or says 'Bang!' when holding

> "There is no reason why people could not scan their boss' image into *Doom* and blast away"
>
> *Janet Murray, author, Hamlet on the Holodeck*

a toy gun. Our successful engagement with these enticing objects makes for a little feedback loop that urges us on to more engagement, which leads to more belief. As the digital art medium matures, writers will become more and more adept at inventing such belief-creating virtual objects and at situating them within specific dramatic moments that heighten our sense of immersed participation by giving us something very satisfying to do."

But more thrilling

entertainment isn't the sole extent of interactive narrative's potential. Murray sees ways in which descendants of today's videogames can be used for healing, education, and personal growth. "Storytelling can be a powerful agent of personal transformation," she argues, "[and] the right stories can open our hearts and change who we are. Digital narratives add another powerful element to this potential by offering us the opportunity to enact stories rather than to merely witness them."

She offers the following elaboration. "Enacted events have a transformative power

by Neil West

Neil West is *Next Generation's* editor-at-large

that exceeds both narrated and conventionally dramatized events because we assimilate them as personal experiences. The emotional impact of enactment within an immersive environment is so strong that Virtual Reality installations have been found to be effective for psychotherapy. Psychologists in several research centers are treating phobic patients by exposing them to virtual environments that simulate the situations that trigger their anxiety attacks. The desensitizing process is in essence a participation in a fictional world."

And this isn't just pie-in-the-sky speculation. Murray is basing her arguments on existing phenomena. "Researchers in California and Atlanta have relieved patients' long-standing fear of heights by having them 'walk' over virtual bridges and ride in virtual elevators. Patients initially respond to the virtual environments with terror, just as they would to the real-world experience. The therapist then accompanies them through the experience, helping them practice self-calming behaviors. Essentially, the patients are practicing coping behaviors in the virtual environment; they are like actors at a dress rehearsal. The inner changes brought on by such experiential learning then allow the patient to apply the same behaviors to the real world. Patients who can ride a virtual glass elevator in a virtual hotel lobby can then go to dinner on the 72nd floor of the Peachtree Plaza in Atlanta, and patients who cross a virtual Golden Gate Bridge can then cross the real one."

Similar acts of healing and therapy have also occurred on the Internet. "These results echo the processes observed in some MUD participants who [already] use their imaginary personas to practice social skills they are trying to cultivate in the 'real' (i.e. nonelectronic) world," Murray explains. "For instance, one woman recovered her sexual confidence after an amputation by enacting the part of a similarly handicapped character on a MUD. As in the case of the phobic patients, the virtual experience worked because it was enough like the real one to raise the same anxieties but safe enough to allow for imaginative rehearsal."

With this kind of power, however, inevitably comes responsibility. "The transformational power of enacted narratives holds both promise and danger for the future," Murray warns. "On the one hand, it may make digital environments as important as television currently is for the presentation of problem plays, stories about social injustice or intolerance that are meant to broaden the audience's sympathies. Electronic narratives are already being used to teach such skills as language learning, military medicine, and corporate decision making. They could also be used to teach ways of being in the world, to teach, for example, how to resolve conflicts, how to be a successful job applicant, how to be a nurturing parent, how to be a nonabusive spouse or parent. If these issues are embedded in an interactive narrative that is fictionalized just enough to be compelling but not threatening, such narratives might be as effective in changing behavior as an acrophobic's walk across a virtual bridge.

"On the other hand, computer enactment may also reinforce violent or antisocial behaviors. Already a college student in the Midwest has been disciplined for publishing on the internet a rape fantasy in which he names an actual fellow student. We may be moving toward a situation like that depicted in the 'Star Trek' episode, aptly named 'Hollow Pursuits,' in which a withdrawn and awkward crew member becomes addicted to holodeck programs that allow him to out-fight or seduce the people he is intimidated by in his actual life. Just as psychologists are considering scanning images of their patient's actual family members for VR therapy, there is no reason why people could not scan their boss' image into a customized version of Doom and blast away. Would this exercise make it more or less likely that they would actually shoot their boss?"

She concludes that, "The goal of mature fictional environments should not be to exclude antisocial material but to include it in a form in which it can be engaged, remodeled, and worked through. Therefore, an environment in which we can only kill dragons, no matter how many different ways we can transform their experience, is less desirable than one in which we can also domesticate them, worship them, ally with them against other monsters, or perhaps even take them for a ride in a multistory atrium elevator." Interestingly, this is almost the exact same need for change that I outlined in last month's column after lamenting the fact that, in today's videogames, violence is usually the only option players are given.

The future direction of videogames

and interactive narrative at large is uncertain. But Murray is confident that it will find its way. "Looking ahead to the next 40 years — the working life of the generation that has grown up with videogames and educational computing tools," she explains, "we can expect a range of narrative formats to emerge as authors look for a way to preserve the customary pleasures of linear narrative while exploiting the essential properties of the digital

> ## "To hear Alec Guiness' voice whisper, 'Use the Force!' was to become Luke Skywalker for a moment in a magical way"
> Janet Murray, author, Hamlet on the Holodeck

medium with increasing sophistication."

And what route are games likely to take in their evolution? Murray dismisses the early "interactive movie" CD-ROMs featuring storylines that simply "branch," noting that, "Games that do offer choice points leading to variant plot events are usually constructed with only shallow detours off the main spine of the plot. This is because even a story of less than a dozen branch points, with only two choices at each branching, would require hundreds of endings."

She also holds little faith in the quest to develop a computer program that, based on analysis of previous stories, can generate narrative, by formula, on-the-fly. "A story is an act of interpretation of the world, rooted in the particular perceptions and feelings of the writer," she maintains. "There is no mechanical way to substitute for this and no reason to want to do so."

Instead, Murray sees interactive experiences borrowing background from existing stories and narratives as one bright hope for the future. "As 3D environments become more detailed, children and adolescents will be increasingly drawn into virtual environments that function as satellites of the communities described in movies, comic books, and most compellingly, broadcast television series," she offers. "For instance, a program like 'Dr. Quinn Medicine Woman' might set up a series of virtual frontier towns some miles away from the series' Colorado Springs location, towns populated by interactors who could choose to be blacksmiths, barbers, general store owners, saloon keepers, scouts, and, of course, female doctors, and who could be given their own homesteads or boardinghouse rooms in particular physical locations within the fictional world. The creators of the series could set some plots in motion within these towns and let other actions arise spontaneously from the role-

playing of the participants. Area-wide events that happen on the series, such as an influenza epidemic or a confrontation with General Custer, would also happen in the neighboring towns."

This type of environment isn't as far off as you may think. "The Lucasfilm games are already moving in this direction," she says. "The first *Star Wars* arcade game allowed the player to repeat the actions of the movie hero, thus enhancing the player's enjoyment and excitement when events in the movie were duplicated in the gameplay. To hear Alec Guiness' voice whisper, 'Use the Force!' was to become Luke Skywalker for a moment in a magical way. But the PC-based game *Rebel Assault* is even more exciting because it allows players to have their own adventures, parallel to those in the movies and carefully woven into the same event sequence and time frame. In *Rebel Assault*, the player is Luke himself but a rookie cadet who rises to squad leader and goes on all the key missions of the *Empire Strikes Back* but from a different part of the battlefield. For instance, at one point the player sees the movie heroes leave the ice planet Hoth and is left behind to mop up and escape as best he can while the Empire's forces close in. When my own son at age 13 watched the movie again after mastering the complex videogame, he jumped up and down in excitement when he recognized the parallel sequence. 'I was there!' he cried out. 'I stayed on the plant after Han leaves. It was even more dangerous for me!' Like Don Quixote, he was able for that moment to act within a beloved narrative he had only witnessed before."

What's certain is that there's an audience out there, hungry for more interactivity and itching to take part where before they have only been able to watch. "Though the technology of the 'Star Trek' holodeck remains improbably distant, and the puzzle mazes, shooting games, and tangled web pages of the mid-1990s have only begun to tap the expressive potential of the new medium," Murray concludes, "these first experiments in digital storytelling have aroused appetites, particularly among the young, for participatory stories that offer more complete immersion, more satisfying agency, and a more sustained involvement with a kaleidoscopic world."

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GALLERY

Namco's *Tekken 3* features highly detailed character designs and backdrops. In fact, Masashi Kubo, one of the artists, drew the backgrounds with his left hand after breaking his favored right hand in a motorbike accident
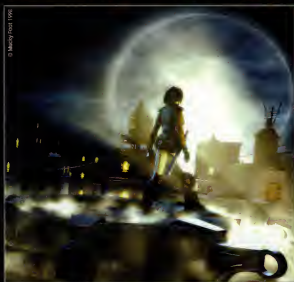
© Mucky Foot 1998

Mucky Foot's high-end rendering artist Stuart Black created these images from character designs by graphic novel artist Fin McGechie for the company's debut game, *City of the Fallen* (working title)

Images rendered by Mucky Foot's Stuart Black, using 3D Studio MAX 2.0 in Windows 95, running on a Pentium 2 P300 with 192MB RAM and 4GB hard disk

LightWave 3D 5.5

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Paul Davies is a Senior Animator for Red Orb Entertainment, a Division of Broderbund Software, Inc. Their latest project is an upcoming real-time strategy game called "Warbreeds."

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Excellent
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★★★
Good
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★★
Average
Perhaps competent — certainly uninspired.

★
Bad
Crucially flawed in design or application.

🔴 Denotes a review of a Japanese product.

BUSHIDO BLADE 2 ●

This is one sequel that won't look too familiar

Platform: PlayStation
Publisher: SquareSoft
Developer: SquareSoft
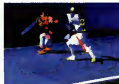
Bushido Blade 2 has gone well beyond what the orginal attempted — and it's succeeded

Square has always had the unique ability to push the limits of a genre with every game it creates. Nothing illustrates this better than its sequels, like the *Final Fantasy* games or *Tobal No. 2*, which are essentially identical games with vastly improved technology and plots taken from new angles. In the case of *Bushido Blade 2*, that philosophy is taken to a new extreme — so much so, in fact, that the result actually bears little resemblance to the original game.

The basic swordfighting theme and some recurring characters remain, but that's it. The storyline, developed in the game's Decisive Battle Room, focuses on the feud between two warring families — the Sue and Kagami dynasties. Each side begins with three characters, but other fighters can be recruited in a rather interesting manner. In the Decisive Battle mode, players encounter not only opposing warriors, but also characters from their own family. These individuals then become the "main" character for a particular location. Should these newcomers survive the resulting combat, they later appear on the character select screen.

The Decisive Battle mode takes place in a number of locations players can find on a map that details the lands separating the Sue and Kagami. Upon arrival at a new location, players are invariably

First-person mode is an option on all the single-player modes (top). The single-player modes show off drastically improved AI (above)

pitted against generic, "stock" fighters. These identical assailants are quite obviously a compromise Square felt compelled to make in order to avoid excessive disc access. Only after these are dispatched does the battle proper begin — a fight to the death with a member of the rival family.

While the "block" move common to all fighting games is considered by many as prerequisite, it has been discarded in *Bushido Blade 2*. Opponent's attacks are now blocked with the player's own assaults and

The weapon selection is smaller this time but more carefully chosen, and the overall gameplay mechanics are fine-tuned beyond expectations

counterassaults, and the success of each parry is indicated by an appropriate visual effect. A white flash denotes the striking of weapons (or a weapon hitting a solid object) while a blue flash signifies a solid, successful block. A green effect, though, indicates a weak attack, while the player in question suffering a momentary lack of balance.

Although one clean strike ends a battle, it's possible to inflict and receive minor bodily damage. The depth of this feature is much improved from the first game. A hit on the torso reduces attack and defense speed, a blow to either leg hinders movement. Most devastating of all, though, is damage to the left hand. This removes the player's ability to attack with secondary weapons and reduces the offensive repertoire. Cruel and calculating *Bushido Blade 2* zealots can, therefore, confidently inflict minor damage before dispatching their disheartened and almost defenseless assailants with an elaborate strike.

The lessening of abilities with nonfatal wounds gives *Bushido Blade 2*'s combat a definite air of authenticity. Few fighting games evoke a similar sense of desperation when badly injured players attempt to block relentless attacks from a stronger opponent. Conversely, it's not uncommon to feel some genuine respect for a CPU-controlled assailant who, despite serious wounds, continues to fend off well-structured assaults.

As with its predecessor, *Bushido Blade 2* offers players a fine selection of weaponry to choose from. A favorite with many will be the Katana, its light weight and speed lending itself to a spectacular brand of fencing. The subtlest of facing opponents with different weaponry makes *BB* a difficult game to master. How, for example, would a player armed with a slow yet powerful Nodachi blade attempt to beat an assailant armed with a Naginata? The latter, possessing a long range weapon (a kind of pike or spear), could be

seen as having a considerable advantage. It's in these instances that secondary weaponry can be put to use. Kaun's iron club, for example, could be thrown, creating an opening for a main attack.

The sheer depth of *Bushido Blade 2*'s combat makes it an appealing one-player game, but its multiplayer option is of an equally high standard. Besides the basic side view, there's also a rather interesting first-person option, and two-player battles offer the option to fight on separate PlayStations via a link cable. *Bushido Blade 2*'s player vs. player battles can last for far longer than the average fighting game bout, with both opponents searching for a weakness in their rival's defense. A fight between two competent players is a sight to behold; feints within feints add surprising complexity.

Bushido Blade 2 is a highly intricate, aficionado's fighting game. The subtleties involved in many of its combat situations will be lost on the casual player used to the more straightforward action of *Tekken*, *Soul Blade* et al. And it's hardly the most visually accomplished of PlayStation games. While its characters are well-animated and - designed, the battle arenas are often simplistic. Quest mode is hamstrung by regular disc access,

Unlike the original, the gun characters are still lethal but nowhere near as precise or unbeatable

which, given Square's defection from the Nintendo fold, is somewhat ironic — *BB2* would perhaps be best-suited to a cartridge-based format.

Bushido Blade 2 isn't an easy game to classify. As a sequel, it may alienate fans of *Bushido Blade 1* who were anxious for more of the same. But nonetheless, kudos to Square for trying such a different approach to begin with, and for refining it in such a fearless manner. Excellent.

Rating: ★★★★★

The graphics upgrade will please some but may be too action-oriented for others

BANJO-KAZOOIE

More than just a clone, Rare's latest is a blast

Platform: **Nintendo 64**
Publisher: **Nintendo**
Developer: **Rare**

The similarities between *Super Mario 64* and *Banjo-Kazooie* are undeniable. Both games are based around lighthearted themes, unbearably cute character design, and pure, platform gameplay. They even share an identical control scheme. To say that Rare's title has not blatantly copied much of Miyamoto's classic would be a flat-out lie. But bearing all that in mind, here's the kicker: *Banjo-Kazooie* isn't just a clone of *Mario 64*, it's an improvement.

Banjo, a clumsy, dull-witted bear, and his friend Kazooie, a sarcastic bird that rests comfortably inside Banjo's backpack, are on a quest to rescue Piccolo, the bear's sister. An evil witch by the name of Grunhilda has kidnapped Piccolo because she is the most beautiful maiden in the land and the witch is jealous. Go figure. The bird/bear duo must travel through nine worlds collecting musical notes (coins) and juggle pieces called jiggies (stars). There are 10 jiggies per world. The more musical notes the team collects, the more worlds are unlocked.

Not surprisingly, *Banjo-Kazooie* plays like a carbon-copy of *Super Mario 64*. The unlikely pair roam freely throughout the game's 3D worlds, sliding through, punching, and beak-stomping enemies, who in turn explode and release musical notes. Rare has utilized *Mario*'s exact control scheme, with a few minor enhancements, the most notable being the ability to switch between playing Banjo and Kazooie at any time in the game. Believe it or not, this simple addition works extremely well, as certain scenarios call for exclusive abilities that one or the other possesses. Banjo, for example, is better equipped to navigate tight areas and defend the team, whereas Kazooie can run up hills and fly.

But where the game comes up short in originality, it excels in ambience, gorgeous graphics, ingenious level design, and clever writing. Rare has done an

Banjo-Kazooie clearly stands on the lessons learned since *Mario 64* but takes those paradigms and runs with them

exceptional job creating the levels that make up *Banjo-Kazooie*'s world, from the beautifully textured landscapes, objects, and enemies, to the subtle yet recognizable clues that help players along. In fact, the game's depth and detail are so great that *Super Mario 64* looks naked and aged in comparison.

Additionally, Rare has once again managed to find a way around Nintendo 64's cartridge-induced Achilles' heel and filled this platformer with high-quality, dynamic music and sound effects. Odd and cute though they may be, the characters benefit greatly from the quirky sounds assigned to them.

Despite all of the above, *Banjo-Kazooie* feels so much like *Super Mario 64* that it cannot be overlooked, which is why we didn't give it a perfect score. On the other hand, Rare must be commended for taking the genre to a new level and delivering an impressive platformer that engulfs players in a Disney-esque cartoon world and makes simple exploration a joy. Two years ago *Super Mario 64* set a new standard. Rare's *Banjo-Kazooie* just raised it.

Rating: ★★★★

In many ways, this is the quintessential Nintendo 64 title: bright, flashy, and painfully cute but with dead-on play mechanics and classicly tuned level design

TENCHU

The coolest ninja game in years is coming

The ninja has been the focus of more videogames than any other character. Steeped in almost mystic tradition, the Japanese feudal spy/assassin has captured the imagination of the gaming world like no other hero (or anti-hero, as the case may be). Strange then, that this is the first game to approach the ninja from an intelligent angle. For the first time in a game, you must use your character like a real ninja — as a silent assassin who must slip through the levels undetected, fighting only when it cannot be avoided.

Although Tenchu is at heart a kind of beat-'em-up, the reliance on stealth, strategy, and skill makes this an incredible precursor to Metal Gear Solid.

Graphically, Tenchu is clever rather than dynamic. The art and design are good — faces are especially detailed — but overall the graphics are not quite state-of-the-art on PlayStation. The camera is well-placed 90% of the time, but the other 10% swings frustratingly.

You choose either a male or female protagonist and embark on a series of well-thought-out

The fighting is very reminiscent of Japanese movies — really bloody

missions. There is a combat element — you can take on bad guys or randomly assassinate passers-by (you will be punished for this), but the level of freedom granted to your character is exceptional.

Many traditional weapons are available to complement your sword — spikes to cripple attack dogs, throwing stars to silence guards, a grappling hook to scale walls. Creep around, find out which weapon is best, and

complete your assigned mission. The missions vary from simple assassinations to complicated, multitask political insurrections — exactly the kind of thing a real ninja would have been required to do. Fortunately, the complicated bits involve a lot of merciless killing. The animation quality is wonderful throughout, and often horrifyingly violent.

Developed by Sony Music Entertainment of Japan, the game includes a soundtrack that is almost as notable as its gameplay. Atmospheric mixes of traditional and modern Japanese themes give the game a truly tense feeling.

Furthermore, character intelligence is sharp — targets will sound the alarm or attack if you enter their line of sight, and later levels even have you walking into traps. Add to this mix some of the tightest controls seen in a PlayStation game, and you have an instant and highly impressive classic. Think Tomb Raider at night with low moral values and you're on the right track. The complicated and evolving nature of the various missions makes Tenchu a highly engrossing, one-player adventure — the sort of thing long nights are made of.

Rating: ★★★★

Most of the missions are search and kill affairs (ninjas were, after all, primarily assassins), but later levels require more stealth. A meter indicates how "aware" the targets of your presence are

STARCRAFT

Blizzard shows why Westwood isn't the only game in town

Platform: **PC**
Publisher: **Condent**
Developer: **Blizzard**

StarCraft is a perfect example of a game that shines through an exceptional cohesiveness of great design, flawless execution, and enough polish to impress the most jaded of PC gamers. In development for more than two years, *StarCraft* is Blizzard's spiritual sequel to its monster hit, *WarCraft 2*, from which it shamelessly steals many of its gameplay elements.

There are, however, several notable improvements that more than justify *StarCraft's* existence. First of all, unlike the two very similar races in *WarCraft*, *StarCraft* features three distinctive and different-playing races to choose

from. First are the Terrans, who have futuristic versions of familiar technology including space marines, mechs, tanks, and of course, nuclear bombs. Next is the insect-inspired Zerg, a primitive race of aliens organized in hives with no real technology but who possess the ability to quickly produce troops. Finally, the Protoss is a race of beings far more advanced than Terrans or the Zerg. The Protoss beings have super-powered weapons and psychic powers, but they build units far slower than their competitors.

Blizzard spent much of the development time balancing the three races so that there is incentive to play all of them. Based on our 40 plus hours of preliminary playing, we believe the company has been quite successful — numerous arguments have already broken out around the **Next Generation** office about which race is better. (Each argument, of course, must be settled by a grudge match.) The three races, combined with the game's massive technology trees, enable large amounts of variation in strategy, so even when you know what race your opponents are playing, you really have no idea what they are going to try next.
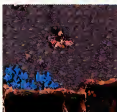
Different races even have different interface stylas

The single-player campaigns are also easy to-notch, with far more involving plotlines than other games in the genre, as well as some of the coolest voices we've heard in any game. If you manage to beat the campaigns (all three — one for each race), there is a fully loaded campaign editor included with the game so that you can make your own. The power of this editor is unsurpassed, and it is no doubt just a matter of time before we start seeing *StarCraft* partial and total conversions, as players will be able to alter nearly every facet of the game.

StarCraft is one of those rare gems that doesn't pump so much new but does everything perfectly. Add in free play on Battle.net, including a built-in ranking system, and you have a good excuse to not touch any other game on your PC for quite a while. The quality of the play balancing and the elegance of the design mean that *StarCraft* sets a new high watermark for all realtime strategy games. It is truly a must-buy for anyone who loves a great game.

Rating: ★★★★★

***StarCraft* features excellent graphics, including quite a few neat special affects that really bring the battles to life. This enhances a mission structure that's more than the usual search-and-destroy**

SPEC OPS

Although rushed — and it shows — this one's a keeper

Platform: **PC**
Publisher: **Ripcord**
Developer: **Zombie**

When people think of the fiercest fighting force in the world, many think of the Navy SEALs. Few remember the elite Army Rangers — men trained to do the real dirty work. In Spec Ops, players take control of two Rangers and accomplish a variety of missions, from blowing up enemy communicators sites to recovering data from downed friendly aircraft. Besides the fantastic story, the animation in the game is smooth, the graphics are awesome (especially with a 3Dfx card), and the mission design and layout are amazing.

At the start of each mission, players choose two soldiers from a menu of specialists, like Machine Gunner or Rifleman. Each has his own inventory and special weapons, like high-powered sniper rifles (few things are as

It's always nice to have explosives handy

satisfying as annihilating an enemy before he even knows what hit him) or satchel charges (useful for taking out large installations). The game is played from a third-person perspective behind the Ranger currently under control. Working through enemy territory requires the normal tricks of the trade — staying low to avoid enemy fire, creeping up on hills, and holding still to fire accurately.

Unfortunately, some of the play control is a bit lacking. For instance, it's difficult to get the hang of lobbing grenades — depending on whether a Ranger is standing or crouching, the grenades travel differently, and figuring out how to get grenades
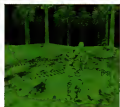
to go exactly where players want can be frustrating. When starting from a prone position, moving forward can take a few tries as well — the Ranger hops up, gets back down, hops up again, and then starts moving. Finally, the AI of the Ranger not currently under control could use some work — several times he would get stuck behind a cliff or precipice, so when players would take control of him to get him out, they would discover that their other Ranger had wandered off from where they left him, wasting valuable time.

Another thing that hurts Spec Ops is the lack of a multiplayer option. It was yanked out at the last minute to get the title out the door. (Zombie promises a future expansion pack or download that will add this feature.)

Despite those flaws, this game is a gem. Ultimately, Spec Ops succeeds at delivering the tension and excitement of a true Army Ranger mission.

Rating: ★★★★

Through some widely varied terrain, the game enables players to control a team of two Army Rangers (although computer AI for the Ranger not under direct control could use some work)

STARSHIP TITANIC

Douglas Adams makes his triumphant return to gaming

Platform: **PC**
Publisher: **Simon & Schuster**
Developer: **Digital Village**

Douglas Adams has long been known for his *Hitchhiker's Guide to the Galaxy* novels, but it's worth pointing out that he also worked on the Infocom text adventure of the same name (as well as *Bureaucracy*). After a 10-year hiatus from the game industry, he and his company, Digital Village, have made an impressive foray into interactive media with *Starship Titanic*, a game about an intergalactic starship on which nothing can go wrong, yet invariably does.

The game begins with your character blissfully working on a computer at home when the giant keel of the Titanic crashes into your house, inevitably roping you into trying to help the doomed vessel. The explorations take you all over the ship, and goals include raising your status from Super Galactic

The prerendered backgrounds in *Starship Titanic* are pretty, but it's the text parser that really makes this game fun

Traveler Class passenger (basically third class) to someone worthy of traversing the truly opulent areas. Meanwhile, the robots that control the vessel are slowly going haywire, and it's necessary to put things in order again.

What's most impressive about this adventure is its reintroduction of the text parser. Unlike most adventure games, there's no conversation tree. You actually type in questions and the robots answer them. At the beginning they don't have much to say — their intention

is to get you started on the adventure, not bogged down in meaningless conversations — but as the game continues, the responses become more and more important. Without asking questions, it's impossible to get anywhere. And many times the humor of the answers alone makes it worth asking questions.

One of the few problems with the game is the sheer difficulty of the puzzles. Douglas Adams' idea of "logic" isn't always clear at first, although it should be said that once a solution is found, it certainly makes its own kind of sense. Also, the still-frame, prerendered backgrounds get dull, and the game suffers from the same crawling pace as many graphic adventures.

However, the game prevails in the end. The text parser and some truly hilarious dialogue that could only come from Douglas Adams make *Starship Titanic* stand out from the graphic adventure pack. Recommended.

Rating: ★★★★

Players who get stuck can call the Doorbot for hints (top) — this is a good thing, since Douglas Adams' skewed sense of "logic" isn't always apparent at first glance

ALL-STAR BASEBALL '99

Platform: **Nintendo 64**
Publisher: **Acclaim**
Developer: **Iguana**

Last year Acclaim released the Iguana-developed Quarterback Club '98 for Nintendo 64, a high-resolution (640x480) football game that looked stunning but had its share of gameplay problems. With All-Star Baseball '99, Acclaim's first baseball game for Nintendo 64, the team is once again banking on crisp, high-res visuals and superior animation to boost its game ahead of the competition. But this time around Iguana has tweaked controls, speed, and response times considerably for a finished product that plays superbly and looks even better.

All-Star Baseball '99 features full Major League licensing for real teams, players, and stadiums — a must for a game of this type. In addition, the game includes stat tracking and records, a create-a-player option, scouting reports, player drafts, roster moves, and lineup and rotation options. There are multiple modes of gameplay as well, from regular MLB games to a Home Run Derby.

A solid batting/pitching system enables a certain amount of strategy on both ends. A small circle above the Strike Zone represents an athlete's batting range. The idea is to line up the circle with an oncoming pitch. However, batters only have a split second to see where the pitch is going and must react accordingly. The result is an accurate, sometimes tense experience that doesn't quite grow tiresome.

With four-player support, unmatched graphics, and solid, tight controls, this is the best baseball game of the bunch for Nintendo 64. Minor AI problems and a slower pace keep it from becoming a classic, but it's definitely a big step in the right direction.

Rating: ★★★★

Tight control complements the game's graphic flourish

FORSAKEN

Platform: **Nintendo 64**
Publisher: **Acclaim**
Developer: **Proba Software**

Let's be honest: Forsaken is a clone of Interplay's Descent. But by taking elements from Quake as well, Probe ended up with a pretty playable shooter.

As a one-player game, this has its drawbacks. Frankly, some of the levels are confusingly large — a fact not helped by the smeared and gaudy appearance of the N64 graphics. Switch to multiplayer, however, and this becomes a frenzied, attractive, and addictive blast. The excellent use of N64 analog control is empowering and responsive, and the weapon selection operates exactly like that in Quake — you see one, you pick it up. You get killed, you drop everything you had — leaving a horrifying arsenal for the next player to pick up

The game does lack in a few vital areas, though. Besides crisper graphics and a better one-player game, N64 Forsaken really needs charisma. The plot talks a lot about the characters, a band of futuristic freaks, but the first-person perspective means that any effect their personalities might have had is negated. This lack of drama and identity makes things feel generic.

However, the four-player split screen really does deserve special merit. Bizarrely, it's often less confusing than the one-player, full-screen mode, and the frame rate hardly suffers at all. Overall, this is solid, enjoyable stuff with not a hint of originality to cloud the fun

Rating: ★★★

Forsaken's levels are vast and often confusing, but look nice

QUEST 64

Platform: **Nintendo 64**
Publisher: **THQ**
Developer: **Imagineer**

Nearly two years after the system's release, a role-playing game finally makes its way to Nintendo 64. Unfortunately, while THQ's Quest 64 may quench younger players' thirst for RPGs, it will disappoint the rest of us with its cookie-cutter plot and total lack of character development. The utterly predictable storyline that passes for a "storyline" involves a young magician's apprentice, who sets out to search for a stolen magical book that will let him save a kingdom in peril.

On the positive side, Quest features an immersive battle system, good music, and lush 3D graphics, reminiscent of Mario 64. Although the outside world is drab at times, the many towns and castles are rendered in gorgeous detail, complete with technicolor sunsets.

In the end, Quest 64 proves the cartridge-based N64 can be a viable format for RPGs; however, while graphics and sound go a long way, the need for well-told stories and characters you care about has never been more apparent.

Rating: ★★★

Quest 64's landscapes don't spoil the view with ugly fog; instead, they combine the smooth cartoon graphics of Mario 64 with an RPG world

CARDINAL SYN

Platform: **PlayStation**
Publisher: **SCEA**
Developer: **Kronos**

Cardinal Syn isn't the worst fighting game ever made, but it's not far from it either

Ever wonder what would happen if you took every good idea from every fighting game ever made and combined them in one, single game? Cardinal Syn has the rather surprising answer: The effect is roughly like making a soup with every ingredient in the house — quite unpalatable

Kronos was responsible for the disappointing Criticom for PlayStation and the not-bad Dark Rift for N64. We'd like to think that this put the company on an upward trend, but all Kronos proved with this game is that two points on the curve aren't statistically significant.

Not that the game is without merit. In fact, the subtle use of backgrounds as hazards (lava flows and the like) adds an interesting tension to the fighting. However, the utterly derivative nature of

the game is visually and artistically insulting

The characters manage to be imaginative without being charismatic — all of them hail from the "Gordak The Invincible" school of thought. They also feel clumsy and unwieldy, even with the superior analog control. The elaborate use of translucent lighting effects and unnecessary gore makes it nigh-impossible to fight properly, or accurately. The full range of 3D movement should be fun but is instead confusing and slow. It just feels wrong

Add to this mess that the computer opponents are either dool-simple or utterly impossible to defeat, and you have a pretty, if confusing, waste of time and effort

Rating: ★★

DARK OMEN

Platform: **PlayStation**
Publisher: **Electronic Arts**
Developer: **Games Workshop**

Warhammer games are a combination of strategy and fantasy troop management, with careful deployment of forces being as important as choosing which troops to bring into battle. Even a small mistake like committing the cavalry too early can spell disaster for a campaign. Dark Omen is just as unforgiving as previous Warhammer games, but mastering the tactics is part of the fun.

What separates Dark Omen from the previous games is its new enemies (introduced in a cool opening FMV), a legion of the undead. Still, it should be instantly familiar to anyone who's played a previous Warhammer game, with a timed setup period for placing troops, then a realtime battle. The undead forces always rush in for the

attack, so any strategy requires a well-planned defense, and the combination of short range and long range troops makes for an interesting challenge.

The Warhammer games are designed to be played on the PC, so porting them to PlayStation is always tricky. The joypad is a very imprecise instrument, and it often takes a while to master maneuvering the cursor around the screen

Gameplay in Dark Omen is an exact science. Until a player gets a grip on its unique strategies, missions will often have to be played over and over again. Casual realtime gamers may find it too daunting, but the difficulty level should appeal to hawks looking for a challenge

Rating: ★★★

Getting your units into position before an enemy charge is the key to survival in Warhammer: Dark Omen

FORSAKEN

Platform: **PlayStation**
Publisher: **Acclaim**
Developer: **Probe**

At first glance Forsaken looks like nothing more than a simple Descent clone, but upon closer inspection, it's actually much more. Visually Forsaken is stunning. While not quite on par with its PC, Voodoo2 big brother, Forsaken for PlayStation lacks the fuzzy anti-aliasing found in the N64 version and does an excellent job of looking good.

Forsaken for PlayStation has a couple of flaws, though — first of all, there are simply not enough buttons on the controller. Playing the game with the default control layout is nearly

impossible. As with the N64 version, analog control is a much better suited to the gameplay, so a PlayStation joystick is the preferred accessory. Also, the PlayStation version lacks the four-player mode of either the N64 or the PC versions.

All in all, this is a decent title Probe has mixed together the best elements of Descent and Quake and added some pretty tricky enemy AI, resulting in a game that shines, although in slightly different ways, on each platform.

Rating: ★★★
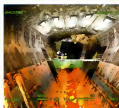
Forsaken has plenty of eye candy to go around

NEED FOR SPEED III

Platform: **PlayStation**
Publisher: **EA**
Developer: **EA**

The third time is a charm for this series, which finally gets good in Need for Speed III

The *Need for Speed* series has always enjoyed a dedicated fan base, with many players appreciating the ability to accurately drive today's hottest sports cars. However, even the most ardent fan has to admit that the graphics and frame rates were never up to snuff. Enter *Need For Speed III*.

To begin with, EA finally got the graphics right. *NFSIII* runs at a very nice clip and the environments are beautiful. There are a total of 10 tracks (although many are just variations on other tracks), all of which look great and feature many scenic areas and high-flying jumps.

Control has also been tightened up considerably and, while still a little awkward using the normal Sony digital pad, feels like a dream with the dual analog controller. The number of modification options is nowhere as detailed as Sony's *Gran Turismo*, but it's more than acceptable. There's also a new racing mode called Hot Pursuit, in which the player dodges eight police cars

However, there are still problems, the worst of which is the severe drop in frame rate for the two-player mode. It's still fun, sort of, but the split screen looks awful.

Overall, though, *Need for Speed III* is an excellent racer for both novice and expert enthusiasts. Hopefully EA will continue to improve the engine so that *NFSIV* offers a great two-player experience as well.

Rating: ★★★★

Driving at 100mph at night — oooh, gives us chills

RASCAL

Platform: **PlayStation**
Publisher: **Psygnosis**
Developer: **Traveler's Tales**

Picking up on the popularity of the 3D platform genre, Psygnosis has entered the fray with *Rascal*, and visually the game is wonderful. Jim Henson's Creature Shop in London created the game's many critters, which are quite distinctive. Certainly, the bright color schemes and playful use of colored lighting make *Rascal* very appealing — what makes it not so appealing is the horrid control.

Instead of using a relative-to-screen control scheme like in *Mario 64* and *Gex*, *Rascal* uses a relative-to-character control similar to *Grand Theft Auto*. While this works for top view games, it's terrible for 3D platformers. The constantly moving camera keeps the perspective shifting,

which makes it difficult to stay oriented. Many players will find themselves running in circles.

Compounding the problem is the lack of a strafe (or slide) button. It makes the boss fights simply annoying, as the player is forced to run to a corner of a room, turn, shoot once or twice, then turn and run, only to repeat the pattern on the other side of a room.

Excepting the excellent visuals, there really isn't too much substance to *Rascal*. It's more of a technological achievement (one of the only PlayStation games with no noticeable load time) than a game, and worth picking up only for those who enjoy being annoyed.

Rating: ★★

Rascal is cute, but he's no Mario; in fact, he's not even Gex — he's more in Blasto or Bubsy's league. Although there is some interesting level design, mostly this is an exercise in frustration

REBOOT

Platform: **PlayStation**
Publisher: **EA**
Developer: **EA Canada**

Electronic Arts' *Reboot* license is somewhat ill-timed considering the (admittedly revolutionary) TV show has just been canned. The expense of producing a half-hour episode of beautifully rendered characters paid off artistically, but apparently not in the ratings war.

This PlayStation interpretation of the show has some merit with or without the license. A smooth graphic engine and a playable combination of skateboard-style stunts and *Tomb Raider*-style exploration make this worth a play, if not a purchase. With a standard controller, it is enjoyable and engrossing, but use a Sony analog pad, and it becomes a supremely responsive and unique simulation.

The only real problems are directly related to the license. A slightly naive, sub-*Tron* plot and remarkably silly characters detract from rather than add to the atmosphere. The game is technically fine, very playable, but it somehow lacks cohesion as an adventure. The repetitive nature of the tasks (basically repairing holes in the universe) may prove tedious.

We hate to say it, but fans of the series will still likely enjoy it.

Rating: ★★★

Reboot is just enough, just a little too late

SAGA FRONTIER

Platform:	**PlayStation**
Publisher:	**SCEA**
Developer:	**Squara**

S aGa Frontier seems like someone's idea of a bad joke, especially when you consider Square's sort of untouchable status due to the monstrous success of *Final Fantasy VII* and its solid reputation for producing some of the highest-quality games for any system.

Initially, it seems to offer the promise of unequaled depth. Players are given the choice of one of seven different characters, all of them possessing their own backstory and unique abilities. However, it rapidly becomes clear that the emphasis of the gameplay is on the game's too numerous battles, which are repetitive and rough.

Graphically, the game has more in common with 16-bit RPGs than any of the current crop of 32-bit titles. The 2D, prerendered backgrounds enable absolutely no interaction and sometimes make even simple exploration a little

confusing.

But the real letdown is the minimal development of the storyline and the characters. With its "Free Scenario System," SaGa strives for nonlinearity, in that missions don't need to be completed in a strict order. In practice, however, it drastically weakens the plot and the interaction between characters, and it's often a matter of sheer luck that players stumble across the next goal. There's inanimal personality granted to each character and dull dialogue throughout — not a good thing for any kind of RPG, and a severe disappointment from a powerhouse of melodrama like Square.

With the potential for a deep and involving adventure, SaGa Frontier is a depressing misfire from a company praised for its innovation and high-end titles

Rating: *

Battles and the utilization of newly acquired skills are among the few high points in playing SaGa Frontier

THEME HOSPITAL

Platform:	**PlayStation**
Publisher:	**EA**
Developer:	**Bullfrog**

T he sim genre is woefully underrepresented on PlayStation, but Electronic Arts is finally doing something about it with the release of Bullfrog's *Theme Hospital*.

Theme Hospital enables the player to design a series of hospitals from the ground up, and it's a surprisingly fun experience. The goal is to manage and grow each facility to a predetermined value by building examination and treatment rooms and hiring doctors, nurses, administrators, and handymen to keep the place going. The more advanced the hospital's technology, the more ailments can be cured. As more patients arrive for treatment, more money can be made. As a result, the the hospital gains prestige (and the next one gets even bigger).

Of course, hospital administration isn't just about making money, it's about treating and caring for patients

(all of them stricken with good-for-a-chuckle, "joke" diseases like "bloaty head" and "slack tongue"). This doesn't mean simply installing and maintaining medical equipment, but also including things like restrooms and enough benches for patients to wait on

Since *Theme Hospital* is a port of a PC game (which relied heavily on a mouse), there is a control issue to contend with. Although using the joypad isn't perfect, the cursor affects a relatively large area when clicked, so selecting doctors or rooms isn't too difficult

Bullfrog's games are always an interesting take on an established genre and *Theme Hospital* is no exception. It has all the sim elements that fans are looking for, with plenty of depth, but it's also accessible to gamers who haven't played every iteration of *SimCity*.

Rating: **

If you build it, they will come and be healed — and pay you money — in *Theme Hospital*

TENNIS ARENA

Platform:	**PlayStation**
Publisher:	**Ubi Soft**
Developer:	**Smart Dog**

F irst off, Tennis Arena is not a licensed sports game, and there aren't any familiar faces in the player roster. Instead, there's a diverse group of characters that look as if they belong in a fighting game

That aside, the five arenas boast multiple surface types and look great. The characters are totally polygonal and move smoothly. Control layout is completely configurable, and the game supports five multitap, enabling up to eight players. There are enough moves to make the game mostly playable, but in the end, it just feels like playing *Pong* — you can never quite control where the ball will go

Licensing aside, Tennis Arena is hardly the caliber of even an average EA sports title. If the game only gave players just a little more control over the ball, it could have ranked a lot

better. Instead, what's here is an arcade treatment of a sport that ought to be fun and exciting but winds up being mostly boring.

Rating: *

Tennis Arena looks pretty, but it lacks any sort of license, decent play control, and for that matter, fun

ARMOR
COMMAND

Platform: **PC**
Publisher: **Ripcord Games**
Developer: **Ronin Ent.**

*A*rmor Command employs a 3D view that is strikingly similar to that found in Battlezone. But while Battlezone is a first-person shooter/realtime strategy game, Armor Command is pure realtime strategy. Set in the far future, the game has players construct a base, mine resources, and do their best to kick some ass.

Two features help seperate this game from the pack, however. The first is the already mentioned 3D view. It takes the player right down to ground level, allowing them to witness the carnage firsthand. And although the 3D graphics aren't anything to strut around town, it is nice to see those tanks burn up close.

Another nifty feature is the mobility of the units. With the exception of the landing pad, all units can be deconstructed and moved toward the front lines. This helps prevent the player from building stuff that will never be used — a nice addition.

Mix in excellent multiplayer action, and Armor Command comes up as a solid game in a market glutted with a lot of crap. It doesn't push the genre to a whole new level, but it doesn't insult it either.

Rating: ★★★

Ah, explosions in 3D. Armor Command brings players down to the ground to revel in every explosion

DEADLOCK II

Platform: **PC**
Publisher: **Cyberlore Studios**
Developer: **Accolade**

*T*he original Deadlock offered interesting races and excellent depth in a turn-based strategy game. This second generation expands players' abilities to micromanage their colony while also offering a vastly improved interface. Unfortunately, despite some new features, there just isn't enough to differentiate it from the old Deadlock.

As in the original, it's possible to micromanage every single aspect of a colony, but this sequel also includes a "colony manager" that allows players to set some global parameters — excellent for those who don't want to get bogged down in minutia.

The research tracks have a series of dependencies, but the interface for selecting order of technology development is nothing short of brilliant. The tech interface shows the full tech tree and all of the dependencies from technology to technology.

Many of the same strategies that worked against various races in the first Deadlock work quite efficiently in the sequel, although the AI seems

significantly tougher, especially on the hard settings. The game also includes internet support through NetAccolade. Given the turn-based nature of the game, latency isn't an issue, but be prepared for some serious time commitments given the length of the games.

This is a decent game, but unfortunately the addition of Net play and a new interface hardly seem to justify the release of a new product, or its purchase.

Rating: ★★★

Deadlock II looks and plays a lot like the original Deadlock

BURNOUT CHAMPIONSHIP DRAG RACING

Platform: **PC**
Publisher: **Bethesda Softworks**
Developer: **Bethesda Softworks**

*W*ho would have guessed that drag racing would make a good computer game? Let's face it, 40-second races aren't that exciting. In fact, in Burnout it takes longer to set up a dragster than it does to race it, but it's the setup that's a big part of the fun. Arcade racing fans shouldn't even conmue reading, though, because Burnout is a die-hard sim. The races are so short it's a necessity to tweak each machine in an even more arid fashion just to shave off a fraction of a second. Players can adjust 60 different elements of a car's setup, including everything from its suspension to its transmission, tires, and brakes.

The single race is nice for a quick, visceral moment, but the real game is

competing in a season or going head-to-head with someone over a network — by far the most adrenaline-pumping way to play. The 40 seconds spent ripping towards the finish line is worth the five or 10 minutes spent setting up the car. The bragging rights are prize enough.

Rating: ★★★★

Burnout offers 20 different cars to drag with. The races are short, but the attention to detail is incredible. Players can spend hours tuning a car for a race that lasts less than 10 seconds

F-15

Platform: **PC**
Publisher: **EA**
Developer: **Jane's**

If Operation Desert Storm hadn't occurred, sim designers would have had to invent it. It seems that every military simulation of the last five years is centered on the Gulf War, and F-15 is no exception.

In fact, one of the nicer touches in F-15 is the ability to fly over three million square miles of geographically accurate terrain in actual sorties that were triggered by events in Desert Storm. Like all of the Jane's titles, F-15 excels in attention to detail, from in-flight refueling to smart bomb camera views to authentic F-15 squadrons.

The controls are sweet, as well they should be, since they were developed from the same data the USAF uses to model aircraft characteristics. The radio chatter, well-acted by a huge cast, is intense and gives all the missions a real sense of urgency. Another nice touch is the ability to play as either the pilot or as

the Radar Intercept Officer.

The missions are many and varied, from flying a BARCAP (Barrier Combat Air Patrol) to working with an FAC (Forward Aircraft Controller) on an intense ground support bombing mission. The interface is easy to use, with a quick, "tap in five minutes" mode for folks not concerned with flying a whole campaign. The game also supports multiplayer games via the Internet.

If fast-paced, hot-and-heavy air combat against a truly diabolical enemy AI sounds like your kind of high, F-15 fills the bill nicely.

Rating: ★★★★

Like every product under the Jane's label, F-15 is an exacting sim that's as real as it gets

LAST BRONX

Platform: **PC**
Publisher: **Sega**
Developer: **Sega**

While Last Bronx was an excellent fighting game in the arcade, it belongs to a genre that PC gamers don't usually appreciate. To compound this problem, hardware acceleration was totally left out of the product, despite the fact that the arcade game it's based on is powered by the Model 2 board.

This is too bad because at its core, Last Bronx is quite good and probably could have stood with the best of them on the PC — it even includes LAN play. Unfortunately, due to its software-based rendering, this game requires nothing less

than a P166 requirement or a P90 requirement on the box, and even then the action will stutter in at 15-20fps. The alternative — turning down the detail levels — just makes the game look awful.

As we pointed out last month with Sega Touring Car, there's no excuse for not supporting 3D acceleration, and while Sega's web site says a patch is coming, it said the same about the self-missing Virtua Fighter 2 patch. It's too bad Sega dropped the ball because this coulda' been a contender

Rating: ★★

This Sea Bass is one of the secret weapons players can find in Last Bronx. It's a remarkably effective weapon

OF LIGHT AND DARKNESS: **THE PROPHECY**

Platform: **PC**
Publisher: **Interplay**
Productions
Developer: **Tribal Dreams**

Set in the near future, Of Light and Darkness puts the player in the role of the Chosen One, who must save the world from the Apocalypse brought on by Gar Hob, Lord of the Seventh Millennium, voiced by James Woods (who doesn't sound much more menacing here than he did as Hades in Disney's Hercules).

The primary task is to redeem various ghostly "apparitions" that have been trapped by their own sins. The graphics are pretty, but like a lot of "too mystical for their own good" point-and-click graphic adventures, the gameplay just drags, and the first-person perspective leaves players feeling, well, disconnected from what was going on

There are three levels to clear, each one containing more puzzles and apparitions than before. With each new game, items are located in different areas, however, the city is the same each time. Getting to know the city is as easy as choosing the Tree Play option, which enables players to explore without worrying about time constraints.

Imagine combining the realtime elements of The Last Express and the graphic style of Zork: Nemesis with the play mechanics of Myst. It's an intriguing idea, but not one that will keep anyone sitting in front of a computer for more than a day or two.

Rating: ★★
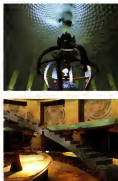
Strange contraptions abound in Of Light and Darkness

M1 TANK PLATOON II

Platform: **PC**
Publisher: **MicroProse**
Developer: **MicroProse**

The original M1 Tank Platoon, released back in 1989, was applauded by almost everyone. Nearly 10 years later, this demanding sequel will delight the tank sim enthusiast, but more casual tankers will find a demanding title with an extremely steep learning curve. This is a very detailed simulation of what life on today's mechanized battlefield is like, so be prepared to spend quite a long time in the Training mode, which includes a static firing line and teaches players how to aim the M1's huge cannon and command a four-tank platoon.

The graphics and sound effects are fantastic with a true "you are there"

quality. The music, though, is standard '80s heavy metal guitar, which is best left off. Since the game includes two completely different scenarios — the ubiquitous Desert Storm and NATO vs the Warsaw Pact — there's plenty of staying power. There's also support for multiplayer over the Internet with four friends riding in a squadron while a fifth plays the aggressor.

Again, due to the depth of this simulation and the rather steep learning curve, M1 Tank Platoon II may prove to be an exercise in frustration rather than fun, but for the individual who truly wants to be "reid on Wheels," this title is just the ticket.

Rating: ★★★★

M1 Tank Platoon II is everything fans of the original could want. It's deep, looks great, and best of all supports a number of multiplayer modes — you and four friends can conquer the desert

REBELLION

Platform: **PC**
Publisher: **LucasArts**
Developer: **LucasArts**

In the last year or so, LucasArts has had far fewer hits than misses with its Star Wars licensed titles. For the pleasure of Jedi Knight, we've paid dearly with Shadows of the Empire, Masters of Teras Kasi, and now Rebellion.

To start, the interface is cluttered and hard to navigate, especially during times when quick decisions are needed. Although the game unfolds in real time, the interface and display screens are cumbersome and better suited to turn-based gameplay. It's difficult to shake the impression that realtime mechanics and the Star Wars license were simply slapped on top of a generic war sim engine.

Players can choose either the Rebellion or the Empire, vying for interplanetary support. The 30 battles can be impressive, which gives the game some credibility. Characters from the Star Wars universe are in the game to politically influence each star system, adding an extra element to the game's

extensive resource management.

However, fans who are dying for the ultimate Star Wars strategy game may want to wait for Force Commander, LucasArts' true realtime strategy game due out later this year. And LucasArts should start looking more closely at what it slaps the Star Wars brand on, as consumers will eventually be less likely to forget or forgive.

Rating: ★★

Rebellion isn't the Star Wars strategy game we'd hoped for — in fact, it ain't even close

OUTWARS

Platform: **PC**
Publisher: **Microsoft**
Developer: **SingleTrac Entertainment**

Taking a cue from Starship Troopers, Outwars is about a war between some alien bugs and humans. Figure in lots of guns, a jetpack, several multiplayer games, and you have the makings of a great game, right? Alas, no — Outwars is a faulty mess.

First, there's a huge clipping problem, so bad that you can see through walls and at times even walk through them. Quite frankly, there is no excuse for this. It ruins the game and becomes a major pain in the neck — and on the eyes.

What else? How about the 3D monsters, which somehow come across in 2D? No idea how they managed to pull that one off. Another problem is that certain missions team the player with NPC soldiers, which carry out orders Cool, right? Wrong. The AI is so bad that they usually get lost.

Even the controls are messed up. Using a combination of the mouse and keyboard is pretty standard fare, so usually the key mapping makes some sense. Not here. The arrow keys control movement, but other vital keys are clear on the other side of the keyboard. Remapping them requires first unmapping all the keys and then reprogramming them. Have fun.

In short, steer clear of this nightmare in a box.

Rating: ★

One of the few bright spots of this horrid game is the jetpack. It's fun to shoot stuff from the air

STAR TREK PINBALL

Platform: PC
Publisher: Interplay
Developer: Seme Curve Interactive

Ask pinball purists why a pinball game is better than a videogame and they will explain that pinball takes more skill because it relies on real-world physics. Therein lies the main problem with *Star Trek Pinball*. It does not behave as a real pinball game should. The balls have a strange attraction to the flippers, and the side drains are rarely hit. Worse, it's seemingly impossible to "tilt" the machine, and as a result, the game loses all sense of challenge.

Were a lousy physics model the only thing wrong with *Star Trek Pinball*, it may have been excusable — unfortunately, there's more. Each of the

three tables has a unique soundtrack. While two of them are great, the third is full of clicking and popping noises that make us wonder how this ever made it past QA.

About the only positive thing is the table design. The two-player table is fairly basic, but both single-player tables are laid out nicely. Ramps and triggers are well-placed, and the tables are visually appealing. If the physics model had been true to life, these tables would've rocked in the end, *Star Trek Pinball* is one to be avoided — at least until it hits the bargain bins.

Rating: ★
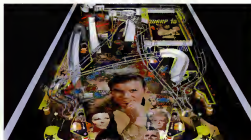
Star Trek Pinball is yet another example of a bad game with a good license

TOMB RAIDER GOLD

Platform: PC
Publisher: Eidos Interactive
Developer: Core Design

This is essentially a repackaging of the original adventures of Lara Croft along with four more levels of jumping, shooting, and puzzle-solving mayhem — not bad, but not worth spending the money either.

The first two levels, appropriately called *Shadow of the Cat*, return Lara to the city of Khamoon. The area is now flooded, and a secret entrance by the strange cat statue opens up two huge levels, where Lara discovers a strange new mummy. The other two levels, *Unfinished Business*, take place right after Lara destroys Atlantis. She returns to find some of the area still

intact, and she must destroy the alien hatchery to avoid further infestation.

The new levels are true to the original *Tomb Raider*. They're difficult but not impossible, although *Unfinished Business* is only recommended for expert players, and rightly so. Only one noticeable flaw mars the new areas — the original *Tomb Raider* contained creatures that entered through doors or were otherwise already present. In the new levels creatures appear out of nowhere, often from behind after passing a certain point. Rather than plan ahead for such encounters, players must rely on quick reflexes to see themselves out of certain danger.

For the two people who don't own *Tomb Raider*, this is an excellent package. However, for the rest of us, pass on the *Gold* box and simply download the new levels from www.tombraider.com for free.

Rating: ★★★

Strange sights abound in Lara's all-new *Tomb Raider Gold* adventures. When you go back to Atlantis, you can see all the nasty living walls again

ULTIMATE RACE PRO

Platform: PC
Publisher: MicroProse
Developer: Kalisto

PC users can rejoice because they finally have an arcade-style racing game that lives up to — and even

exceeds — its console brethren.

While it is possible to do minor modifications on the car (nudging off speed for acceleration, handling, and the like), the ultimate goal is to get out on the track as quickly as possible. Once there, be prepared for the fastest racing experience available on a PC. URP was originally designed as a PowerVR demo and runs extremely well under Direct3D, so PC owners with an NEC or a 3Dfx card can expect 30fps at 640x480 with every imaginable special effect on. However, the game is scalable to almost any setup; even software only (which, well, ain't nearly as good).

The game supports multiplayer racing modes over a LAN or the internet (although the promised MPlayer support isn't available as of this writing), and the real mayhem comes from the multiplayer Arena mode. Just imagine a demolition derby on a stunt track littered with jumps, power-ups, and random obstacles and you get the idea. This mode alone is worthy of an entire game.

The only place *Ultimate Race Pro* chokes is in variety. With only four tracks and the arena available, there's not really a whole lot to do. Overall, however, this is a great experience for all PC race drivers.

Rating: ★★★★

In *Ultimate Race Pro* the emphasis is on fast action and great graphics

ALIENS ONLINE

Platform: **Online**
Publisher: **Kesmai**
Developer: **Mythic Ent.**

Aliens Online is an interesting mix of old technology and excellent design decisions. On the one hand, the game engine is fairly weak, consisting of a modified raycasting engine (think *Doom* with angled walls) and sprites for all of the enemies and player characters. On the other hand, *Aliens Online* is perhaps one of the scariest and most intense gaming experiences *Next Generation* has ever experienced.

Where *Aliens Online* excels brilliantly is in its atmosphere and excellent generation of suspense. The sound is awesome and puts everyone on edge almost immediately with little audible details that really make it feel as if you're participating in a movie. This game is meant to be played in the dark, but be careful not to play for extended
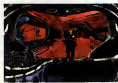
The graphics may not be pretty, but the action is straight out of the movies

periods, as you will risk becoming a paranoid wreck — it's that good.

However, several things keep this from brilliance. First, it's actually inconvenient to talk to members of your team. Second is the lack of complete customizability — and why in the name of the goddess isn't it possible to use the mouse to look up and down, especially since it's so vital to the game? Finally, there's not a lot of variety to the maps. The level designs are very good, but all the textures are so similar that after a while, one place looks much like the next. After the initial rush of newness wears off, the sameness sets in, and a lot of the excitement goes away.

Overall, this is a wonderful addition to GameStorm. We just wish there was more variety so the thrill could last

Rating: ★★★

CALIFORNIA SPEED

Platform: **Arcade**
Publisher: **Atari Games**
Developer: **Atari Games**

Although it was developed by Atari, *California Speed* is more like Midway's *Cruis'n* series than Atari's *San Francisco Rush*, with the exact same interface, the same big-breasted chicks shoving it in your face before and after races, four-person multiplay, and a general hot-rods-and-muscle-cars look and feel.

If you want ludicrous and light-hearted racing fun, *California Speed* is worth a few quarters

Like the infamous road kills in *Cruis'n*, *California Speed* enables racers to pummel pedestrians in malls, cruise through military test sites, and experience other parts of the Golden State like never before. Graphically, the developers have tried to push the envelope, adding touches like transparent roads and giant waterfalls. However, they've had less success than those they seem to be trying to imitate (*Super GT*, to be specific). In fact, sometimes the game's sprites are as crude as those in *Maximum Force*.

The control is serviceable, with speed and an eye for wacky obstacles making up the majority of the gameplay. It's fun and lighthearted, and the cars are less weighty than those found in *SF Rush*.

However, in the end, *California Speed* is aimed directly at the middle of the gaming audience, and it plays that way too.

Rating: ★★★

While it's nothing you haven't seen before, at least *California Speed* has some variety

TIME CRISIS 2

Platform: **Arcade**
Publisher: **Namco**
Developer: **Namco**

Namco's sequel to the next step in light-gun games takes the *Time Crisis* series to another level of highly emerging gameplay and visually stunning graphics.

In addition to full-on shooting action, the original *Time Crisis* brought players straight into the game with a foot pedal that reloaded the gun and enabled ducking or hiding behind corners. *Time Crisis 2* steps up right where the previous game ended, except now players have the chance to play in tandem with another person who's standing at a second cabinet. In these scenarios, player one shows up as a character on player two's screen and might be in almost direct line with the enemy or enemies may be running in front of the player, complicating quick-reaction shots.

Built on System 23, Namco's answer to Model 3, *Time Crisis 2* is a highly refined game that relies on players' abilities to recognize different strategies. Each level (the European city and coast, the alpine forest and oilway, and the satellite launch base) blends knee-jerk shooting responses with stealthy spy techniques, creating a beautiful balance of gameplay elements that raises the bar on shooting games to the next level. Indeed, it could be argued

that *Time Crisis 2* really isn't a beginner's game, despite the fact that it's still easy to pick up and play.

Graphically, more polygons were used to build the characters, and more RAM and a faster processor enable this game to far outshine its predecessor. This should please policy fans who were bothered by split elbows and knees and funny, Dali-esque faces.

Not as big a milestone as the first, but definitely a superb game from Namco.

Rating: ★★★★
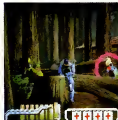
Time Crisis 2 isn't the huge leap in gameplay that the original was, but it's still a blast

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THE GAMER'S GUIDE

The quintessential guide to released software

We've reviewed far more games than we can cram onto these pages. How do we decide what gets lost when we have to add last month's reviews? Because of the used market, we keep all console games on the list. So PC games go first, with older, poorly rated games (especially if the publisher is out of business) going fastest. As a result, the ratings in the PC section may seem slightly skewed towards the positive. Again, please note the issue number — technology and game design march on relentlessly, so a game that got ★★★★ in *NG 6* might be hard-pressed to score ★★★ today.

title	publisher	rating	
Nintendo 64			

title	publisher	rating	
PlayStation			

Romance of the Three Kingdoms IV	Koei	★★★	18
Rush Hour	Psygnosis	★★★	32
Samurai Shodown III	SCEA	★★	25
Sentient	Psygnosis	★★★	30
Shadow Master	Psygnosis	★	41
Shellshock	US Gold	★★★★	19
Shipwreckers!	Psygnosis	★★★	38
Shockwave Assault	Electronic Arts	★★	15
Sidewinder	Asmik (Japan)	★★★	18
Silverload	Vic Tokai	★★★★	18
SimCity 2000	Maxis	★★★	23
Skullmonkeys	EA	★★	40
Slam 'N' Jam	Crystal Dynamics	★★★	19
Slam Scape	Viacom	★	26
Soul Blade	Namco	★★★★	28
Soviet Strike	Electronic Arts	★★★★	24
Space Griffon	Atlus	★★	14
Space Hulk	Electronic Arts	★★★	21
Space Jam	Acclaim	★	27
Spawn The Eternal	SCEA	★	38
Speed Racer	Jaleco	★★	42
Spider	BMG	★★★	28
Spot Goes to Hollywood	Virgin Interactive	★	24
Star Gladiator	Capcom	★★★	24
Star Wars Masters of Teras Kasi	LucasArts	★★	38
StarWinder	Mindscape	★★★	24
Steel Harbinger	Mindscape	★★★	24
Steel Reign	SCEA	★★	37
Street Fighter EX Plus Alpha	Capcom	★★★★	35
Street Racer	Ubi Soft	★★★★	24
Suikoden	Konami	★★★★	25
Super Puzzle Fighter II Turbo	Capcom	★★★★	29
Syndicate Wars	Electronic Arts	★★★	34
Tail of the Sun	SCEA	★★★★	31
Tekken	Namco	★★★★	07
Tekken 2	Namco	★★★★★	20
Tekken 3	Namco	★★★★★	42
Tempest X	Interplay	★★★★	24
Ten Pin Alley	ASC Games	★★★★	27
Test Drive 4	Accolade	★★	37
Thunder Truck Rally	Psygnosis	★★★	33
TigerShark	GT Interactive	★★★	29
Time Crisis	Namco	★★★★	38
TNN Hardcore 4X4	ASC	★★	26
Tobal No 1	SCEA	★★★★	24
Toh Shin Den	Takara	★★★★	04
Tokyo Highway Battle	Jaleco	★★★	22
Tomb Raider II	Eidos	★★★★	37
Top Gun	Spectrum Holobyte	★★	20
Total Eclipse Turbo	Crystal Dynamics	★★	10
Toukon Retsuden	Tomy	★★★★	14
Triple Play 98	EA Canada	★★★★	31
Tunnel B1	Acclaim	★★★	25
Twisted Metal	SCEA	★★★★	13
Twisted Metal 2	SCEA	★★★★	30
Vandal Hearts	Konami	★★★★	29
Viewpoint	Electronic Arts	★	13
Virtua Fighter	Sega	★★★★	04
Virtual Pool	Interplay	★★★	27
VMX Racing	Playmates Interactive Ent.	★★	36
VR Baseball 97	Interplay	★★	30
Warhammer Shadow of the Horned Rat	Mindscape	★★★	28
Warhawk	SCEA	★★★★	13
WCW Nitro	THQ	★★★	38
WCW Vs The World	THQ	★★	30
Wild Arms	SCEA	★★★★	32
Wing Commander IV	Electronic Arts	★★	31
Wipeout	Psygnosis	★★★★★	11
Worms	Ocean	★★★★	19
WWF Wrestlemania	Acclaim	★★★★	12
X-Com UFO Defense	MicroProse	★★★★★	14
X-Men Children of the Atom	Acclaim	★★	40
Xevious 3D/G+	Namco	★★★	31
Zero Divide	Time Warner	★★★	14

Online

title	publisher	rating	#
Command & Conquer Sole Survivor	Westwood	★	41
Meridian 59 Revelation	3DO	★★★	37
Netstorm	Activision	★★★★	40
NetWAR	Headland	★★★	41
Tanarus	Sony	★★★★	40
Ultima Online	Origin	★★★★	37

PC

title	publisher	rating	#
11th Hour The	Virgin	★★	16
688(I) Hunter/Killer	Jane's Combat Simulations	★★★★	34
A Fork in the Tale	Anyriver	★	30
Abuse	Crack dot Com	★★★★	14
Advanced Tactical Fighters	Electronic Arts	★★★★	19
Afterlife	LucasArts	★★★	23
Age of Empires	Microsoft	★★★★	37
AH-64D Longbow	Electronic Arts	★★★★★	21
Air Warrior II	Interactive Magic	★★★★	31
Air Warrior III	Interactive Magic	★★★	40
Albion	Blue Byte	★★★★	23
Alien Earth	Playmates	★★★	42
Allied General	Mindscape	★★★★	18
Amber Journeys Beyond	Graphic Simulations	★★★	27
American Civil War	Interactive Magic	★★★★	22
Andretti Racing	Electronic Arts	★★★★	39
Apache	Interactive Magic	★★★★★	11
Arcade America	7th Level	★★★	17
Armored Fist	Novalogic	★★★★	02
Ascendancy	Broderbund	★★★★	12
Atlantis The Lost Tales	Interplay	★★★	35
Azrael's Tear	Mindscape	★★★	25
Bad Mojo	Pulse Entertainment	★★★	17
Banzai Bug	Grolier	★★★	30
Battleground Waterloo	TalonSoft	★★★★	22
Battlespire	Bethesda	★★★	41
Battlezone	Activision	★★★★	42
Beast Within A Gabriel Knight Mystery	Sierra On-Line	★★★★	17
Beavis and Butt head	Viacom NewMedia	★★★★	14
Bedlam	GT Interactive	★★★	26
Betrayal in Antara	Sierra	★★★	34
Big Red Racing	Domark	★★★	19
Blade Runner	Virgin	★★★★	39
Blood	GT Interactive	★★★★	33
Blood Omen Legacy of Kain	Activision	★★	36
Broken Sword The Smoking Mirror	Virgin Interactive	★★★	36
Buried in Time The Journeyman Project 2	Sanctuary Woods	★★★★	13
C.E.O	I•Motion	★★	11
Caesar II	Sierra On-Line	★★★★	14
Capitalism	Interactive Magic	★★★★	13
Carmageddon	SCI	★★★★	33
CART Precision Racing	Microsoft	★★★★	38
Casino Deluxe	Impressions Software	★★★	11
Cat Fight	Atlantean Interactive	★	22
Chaos Overlords	New World Computing	★★★	21
Chronomaster	Capstone	★★★★	16
Circle of Blood	Virgin	★★★★	24
City of Lost Children, The	Psygnosis	★★	32
Civilization II	MicroProse	★★★★★	19
Close Combat	Microsoft	★★	22
Colonization	MicroProse	★★★★	01
Comanche 3	NovaLogic	★★★	33
Command & Conquer	Virgin	★★★★★	12
Command & Conquer Red Alert	Virgin	★★★★	25
Conquest of the New World	Interplay	★★★	20
Creatures	Mindscape	★★★★★	35
Crusader: No Remorse	Electronic Arts	★★★★★	13
Curse of Monkey Island, The	LucasArts	★★★	39
CyberMage	Origin	★★★	17
CyberSpeed	Mindscape	★	18
D-Day: America Invades	Avalon Hill	★★★★	11
Dark Earth	MicroProse	★★★	37
Dark Forces	LucasArts	★★★	05
Dark Reign	Activision	★★★★	38
Death Drome	Viacom	★★★	29
Death Rally	Apogee Software	★★★	27
DeathKeep	SSI	★	22
Deep Space Nine Harbinger	Viacom NewMedia	★	19
Delta V	Bethesda	★★	01
Descent	Interplay	★★★★	05
Descent II	Interplay	★★★★	18
Descent to Undermountain	Interplay	★	41
Destruction Derby	Psygnosis	★★★★	14
Diablo	Blizzard	★★★★	28
Die by the Sword	Interplay	★★★★★	42
Dig, The	LucasArts	★★★★	15
Dinotopia	Turner Interactive	★★★	20
Discworld	Psygnosis	★★★	05
Discworld II. Mortality Bytes!	Psygnosis	★★★	32
Doom 2	Good Times	★★★	01
Dragon Dice	Interplay	★	35
Druid	Sir tech	★★★★	17
Duke Nukem 3D	3D Realms	★★★★	20
Dungeon Keeper	Electronic Arts	★★★★★	33
Dungeon Master II	Interplay	★★	12
EarthSiege 2	Sierra On Line	★★★★	20
Earthworm Jim 1 & 2	Playmates	★★★★	21
Ecco the Dolphin	Sega	★★★	15
Ecstatica 2	Psygnosis	★★★★	30
EF2000 v2.0	Ocean of America Inc	★★★★	36
Elder Scrolls. Daggerfall, The	Bethesda Softworks	★★★★★	24
Emperor of the Fading Suns	SegaSoft	★★★★	32
Empire 2 The Art of War	New World Computing	★★	14
Entomorph	SSI	★★★	14
Excalibur 2055 A.D	Sir Tech	★★	37
Extreme Assault	Blue Byte	★★	35
F 22 Lightning II	NovaLogic	★★	25
F1 Racing Simulation	Ubi Soft	★★★★	39
Fable	Sir tech	★★★	31
Faery Tale Adventure II	Encore Software	★★	40
Fallen Haven	Interactive Magic	★★	32
Fallout	Interplay	★★★★	38
FIFA '96 Virtual Stadium Soccer	Electronic Arts	★★★★★	13
Fire Fight	Electronic Arts	★★★★	21
Frankenstein	Interplay	★	17
Front Page Sports. Football Pro '97	Sierra	★★	29
Full Tilt Pinball	Maxis	★★	15
Fury3	Microsoft	★	13
FX Fighter	GTE Interactive	★★★★	09
G Police	Psygnosis	★★★★	38
Grand Theft Auto	Take 2	★★★★	42
Hardball 5	Sport Accolade	★★★	14
Havoc	Reality Bytes Inc.	★★★★	16
Heavy Gear	Activision	★★★	39
Heretic	Id Software	★★★★	05
Heroes of Might and Magic	New World Computing	★★★★	12
Hexen Beyond Heretic	Id Software	★★★★	14
Hi-Octane	Electronic Arts	★★★★	10
Hind	Interactive Magic	★★★★	25
Hive, The	Rainbow America	★★	16
Hunter Hunted	Sierra	★★	27
Hyper 3-D Pinball	Virgin	★★★★	18
Icebreaker	Twentieth Century Fox	★★★	20
iF 22 Raptor	Interactive Magic	★★★	35
Imperium Galactica	GT Interactive	★★★★	33
Interactive Fiction Collections	Activision	★★★★★	10
Interstate '76	Activision	★★★★	31
Into the Void	Playmates	★★★	33
Isle of Four Winds Rune War, The	Arcanium Productions	★★★	39
Jedi Knight: Dark Forces II	LucasArts	★★★★★	36
Jedi Knight Mysteries of the Sith	LucasArts	★★★★	41
Jetfighter III	Interplay	★★★★	29
Journeyman Project 3	Red Orb	★★★★	41
Knight Moves	Spectrum HoloByte	★★	15
Knight's Chase	I-Motion	★★	21
Lands of Lore Guardians of Destiny	Westwood Studio	★★★	37
Last Bounty Hunter, The	American Laser Games	★★	12
Last Express, The	Broderbund	★★★★	31
Leisure Suit Larry 7 Love for Sail	Sierra	★★★	25
Lemmings Paintball	Psygnosis	★★★	22
Lighthouse	Sierra	★★	25
Links LS	Access	★★★★	24
Lion	Sanctuary Woods	★★★★	15
Lords of the Realm II	Sierra	★★★★	28
M.A.X.	Interplay	★★★★	30
M1A2 Abrams	Interactive Magic	★★★	32
Mageslayer	GT Interactive	★★★★	37
Magic Carpet 2	Electronic Arts	★★★★	13
Magic. The Gathering	Spectrum Holobyte	★★	31
Manic Karts	Virgin Interactive	★	22
Master of Orion II	MicroProse	★★★	28
MDK	Playmates	★★★★	31
Meat Puppet	Playmates Interactive	★★★	34
MechWarrior 2	Activision	★★★★	10
MechWarrior 2 Mercenaries	Activision	★★★★	25
Micro Machines 2	GameTek	★★★	21
Mirage	Atlantis Interactive	★	11
Mission Critical	Legend Entertainment Co	★★★★	15
Monster Truck Madness	Microsoft	★★★★	26
Monty Python and the Holy Grail	7th Level	★★	22
Mordor	TDAI	★★	12
Mortal Kombat 3	Williams	★★★★	10
Moto Racer GP	BMG	★★★★★	31
Myth	Bungie	★★★★	38
NASCAR Racing 2	Sierra On-Line	★★★	40
Nemesis A Wizardry Adventure	Sir-Tech Software	★★★	27
NeoHunter	Virgin Interactive	★	27
Neverhood The	DreamWorks Interactive	★★★	24
NFL Pro League Football	Micro Sports	★★★	11
NHL '97	Electronic Arts	★★★★	24
NHL Hockey '96	Electronic Arts	★★★★	13
Nitro Racers	3DO (Europe)	★★★★	28
Normality	Interplay	★★★	23
Obsidian	SegaSoft	★	30
Orion Conspiracy, The	Domark	★	09
Outlaws	LucasArts	★★★	32
Pandora Directive The	Access Software	★★★★	24
Pax Imperia Eminent Domain	THQ	★★	37
PGA Tour Golf 486	Electronic Arts	★★	01
Phantasmagoria	Sierra On-Line	★★★	12
Phantasmagoria A Puzzle of Flesh	Sierra	★★★	27
Pitfall The Mayan Adventure	Activision	★★★	10
Pizza Tycoon	MicroProse	★★★★	06
Pod	Ubi Soft	★★★	31
Police Quest: SWAT	Sierra On-Line	★★	16
Pool Champion	Mindscape	★	21
Postal	Ripcord	★★★★	37
Powerhouse	Impressions	★★★★	10
Powerslave	Playmates	★★	30
Princess Maker 2	Ignite	★★★	32
Prisoner of Ice	I•Motion	★★★	12
Private Eye	Simon & Schuster	★★	22
Privateer 2 The Darkening	Origin/EA	★★★★	29
Pure Wargame, Vol 1	QQP	★★★	08
Qin Tomb of the Middle Kingdom	Learn Technologies	★	23
Quake	Id Software	★★★★★	22
Quake 2	Activision	★★★★	39
Quarantine	GameTek	★★★★	01
RAMA	Sierra	★★	26
Rayman	Ubi Soft	★★★	18
Realms of Arkania III: Shadows Over Riva	Sir Tech	★★★★	33
Realms of Arkania Star Trail	Sir Tech	★★★	03
Realms of the Haunting	Interplay	★★★★	30
Rebel Assault II	LucasArts	★★	15
Red Baron II	Sierra	★★★★	40
Redneck Rampage	Interplay	★★★	32
Relentless	Electronic Arts	★★★★	01
Renegade	SSI	★★★★	06
Renegade II Return to Jacob's Star	SSI	★★	19
Retribution	Gremlin Interactive	★★	05
Riddle of Master Lu, The	Sanctuary Woods	★★★★	13
Ripper	Take 2 Interactive	★★★	18
Rise of the Robots	Time Warner Interactive	★★	03
Rise of the Triad	Apogee	★★★	06
Riven	Red Orb	★★★	38
Rocket Jockey	SegaSoft	★★★★	27
Sabre Ace Conflict Over Korea	Virgin Interactive	★★★	38
Savage Warriors	Mindscape	★★★	11
Scarab	Electronic Arts	★★★	30
Scorched Planet	Virgin	★★	28
Screamer	Virgin	★★★★	17
Screamer 2	Virgin	★★★★	25
Sega Rally	Sega	★★★	30
Sega Touring Car Championship	Sega	★★	42
Sentient	Psygnosis	★★	33
Separation Anxiety	Acclaim	★	17
Shannara	Legend Entertainment	★★	17
Shattered Steel	Interplay	★★★	26
Shell Shock	Eidos Interactive	★★	23
Shivers	Sierra On-Line	★★★	17
Shivers 2 Harvest of Souls	Sierra On Line	★★	32
Sid Meier's Gettysburg	Electronic Arts	★★★★★	37
Silent Thunder A 10 Tank Killer II	Sierra On-Line	★★	20
Sim Isle	Maxis	★★	13
SkyBorg. Into the Vortex	Fringe Multimedia	★	16
Space Bar, The	Boffo Games	★★★★	33
Space Bucks	Sierra	★	18
Space Quest 6	Sierra	★★★	10
SpaceDude	Everyware	★	21
Spycraft The Great Game	Activision	★★★★	19
Star Command Revolution	GT Interactive	★★	31
Star Control 3	Accolade	★★★★	25
Starfleet Academy	Interplay	★★★	36
Stonekeep	Interplay	★★★★★	13
Streets of Sim City	Maxis	★	40
Strife	Velocity	★★★	20
Sub Culture	Ubi Soft	★★★★	37
Super Stardust 96	GameTek	★	21
Syndicate Wars	Electronic Arts	★★★★	25
TekWar	Capstone	★	14
Temujin	SouthPeak Interactive	★★★	38
Terminal Velocity	Apogee	★★	11
Terminator Future Shock	Bethesda Softworks	★★	16
Terminator SkyNET	Bethesda Softworks	★★★★★	26
Terra Nova	Looking Glass	★★★★	19
Test Drive Off Road	Accolade	★★	31
Tex Murphy Overseer	Access	★★	42
Theme Hospital	Bullfrog/Origin	★★★★	31
Thexder	Sierra	★★	16
Toonstruck	Virgin	★★★	26
Top Gun	Spectrum Holobyte	★★	18
Torin's Passage	Sierra On Line	★★★★	15
Total Annihilation	GT Interactive	★★★★	36
Total Pinball 3D	21st Century	★★	21
Twinsen's Odyssey	Activision	★★★★	34
U S Navy Fighters	Electronic Arts	★★★★	03
Under a Killing Moon	Access	★★★★	02
Uprising	Cyclone Studios	★★★★★	37
Virtual Pool	Interplay	★★★★★	09
Virtual Pool 2	Interplay	★★★★★	38
Virus	Sirtech	★★	40
VR Soccer	VR Sports	★★★	20
Wages of War	3DO	★★	28
WarCraft 2: Tides of Darkness	Blizzard Entertainment	★★★★★	15
Warhammer: Shadow of the Horned Rat	Mindscape Inc	★★★	16
Warlords III Reign of Heroes	Red Orb Entertainment	★★★	35
Werewolf vs. Comanche	Nova Logic	★★★	13
Wetlands	New World Computing	★★	15
Whiplash	Interplay	★★★★	18
Williams Arcade Classics	Williams	★★★★	15
Wing Commander IV The Price of Freedom	Origin	★★★★	18
Wing Commander Prophecy	Electronic Arts	★★★★	40
Wipeout XL	Psygnosis	★★★★	33
Witchaven II Blood Vengeance	Intracorp	★★	22
X-COM Apocalypse	MicroProse	★★★	35
X-COM Terror from the Deep	MicroProse	★★★★	07
X Wing vs TIE Fighter	LucasArts	★★★	32
XCar Experimental Racing	Bethesda Softworks	★★★	35
Z	Virgin	★★★★	23
Zone Raiders	Virgin	★★★★	16
Zork. Grand Inquisitor	Activision	★★★★	39

GAME
OVER

**THESE WINNERS WERE ALL CREATED USING
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LETTERS

The postman always clicks twice

I've been in love with videogames since I got *Pong* for Christmas when I was 10. It's been a love I've never gotten over and hope I never do. I purchased an N64 shortly after it was released. I don't think more than a handful of days has gone by that I haven't played it, even if it was only for a few minutes. I was thrilled about the hardcore gamer's slot in **NG 38**. I knew in my heart I was hardcore, that was, of course, until I took the test. (I failed miserably but had a great time filling it out regardless). I realized I had a lot of catching up to do.

I am a single mom with two kids ages five and seven. They love to watch me play. They cheer me on, learning the of danger with a hoop and a holler when the "bad guys" appear on the screen. It's kind of ironic for them to say the reason why I wanted to write.

I just finished reading "Outlawed in Orlando" (**NG 41**). I understand Rep. Silver's side of the issue, and as you said, his intentions are honorable. It seems to me, however, this is just one more way to cloud over who is truly responsible for protecting our children from violence. When are parents going to shoulder some of the responsibility of informing their children at a young age the difference between right and wrong, fantasy and reality, and respect for themselves and others? Is it really up to the gaming industry? I really don't think so because, quite frankly, it's just that a gaming industry.

My children, at five and seven, know they are watching a game, no more, no less. I own *Turok*, for example, a fairly violent game. Not once have they exhibited or even spoken in an aggressive or violent manner after watching. This isn't because they were born with some wonderful gift of discernment but because I have taken the time to answer any questions they might have and inform them of values and morals. I'm no saint and I'm not perfect by any stretch of the imagination. I do believe, however, if parents would take time out of their oh-so-busy lives and spend it really educating their children, a lot of the violence Rep Silver is worried about wouldn't exist. What we should ban

are parents, single or otherwise, who work 800 hours a week while their kids are God knows where doing God knows what, who then point the finger at the media (or even more ridiculously, videogames) when their child lands in jail for shooting a schoolmate.

Britnee Bayne
Mancos, CO

I just finished reading your article in **NG 41** regarding the Florida politicians trying to outlaw violent videogames in public places. I found the interview with Rep. Barry Silver to be most interesting and at first, a bit disturbing.

Your interviewer seemed almost predatory in the opening of the piece, automatically attacking Silver's notions that there is a direct correlation between violence in videogames and violence in society, repeatedly asking for "proof" of Silver's accusations, proof that Silver was, of course, unable to provide. Silver seemed a bit taken aback by this attitude, as well as news of the VDSA versus Webster ruling and the possibility of his bill as law extending itself farther than was originally intended. That he is forced to consider his position is good. We don't need people just blindly striking out at what they perceive as easy targets.

However, I was similarly disturbed by the interviewer's constant attacking of this man. I then came to the end of the article, where you made an interesting, heartening, and all-too-rare statement: "Most people in the videogame industry ... feel uncomfortable citing merely a 'lack of hard evidence' as defense against accusations that videogames contribute to increasing violence in society. It's a defensive stance, and it sounds

worryingly similar to the [arguments] behind which the cigarette companies desperately hid for so many years."

Too often, it seems that any time somebody attacks violence in videogames, the videogame mags hurl accusations right back, condemning the accusers for being so stupid as to think there could be any effect, citing a "lack of hard evidence." To bullheadedly, dogmatically state that videogames do not contribute to problems as they are often accused of doing is just as bad as vehemently stating that they do. The fact is, both sides present strong, albeit for the most part unsubstantiated, arguments. That **Next Gen** was able, despite the obvious bias that is inherent in your being a videogame magazine, to step back and put things in perspective for a moment, admitting that we honestly don't know what effect this violence has and that we should keep an open mind no matter which stand we favor, is commendable.

This is journalistic integrity. This is why **Next Generation** is the best.

Jeremy Gibson
awe@inw.netFrom

As we've stated before, and will continue to maintain, the evidence (or lack thereof) on how violence in the media affects public behavior has, despite numerous attempts over the years (with videogames being only the latest battleground), proven precious little one way or the other. What is clear is that whatever contribution it may have to the overall level of violence in society is just part of a much, much larger picture, and in the clamoring for political hay, this is all too often overlooked — as are the contributions of courageous parents, single and otherwise, who

The actions of Florida politicians John Grant (left) and Barry Silver (right) seem to have rung a few readers' bells

undertake their responsibility as the single greatest influence in their children's lives with understanding, patience, and love

Wow! Man, I can't believe it! How did the industry manage to hide a gem like *Pong 6D* from the gaming public?!

While the rest of the free world is bent up on the 3D acceleration phenomenon, here comes a small outfit ready to break the barriers and go right to 6D! Twice as cool as 3D! That rulez!

I was a little skeptical at first, but the president and CEO just cast away any doubt that I might have had. Unlike the typical business leaders of today's software and hardware industry, they showed remarkable restraint and avoided merely "hyping" *Pong*. You can have anyone argue with the Vulcanlike logic of, "it's gonna rock!" I'm hooked!

I was most impressed with Klaus (the lead programmer). He could sure show the John Carmacks and Tim Sweeneys of the world what advanced, multidimensional, and cross-platform programming is all about. Look at Carmack — he had to get the entire 3D gaming industry to support "Open" GL just so we could play *Qi Quake*. Sweeney's buny 3D engine has to support Voodoo and PowerVR technology separately. Klaus' open Amiga emulation scheme is just brilliant!

My only fear is that there was no mention of a PC port of the game. I guess we'll have to wait for 3Dfx to come up with a 6D accelerator first. Hey, that's what this "Banshee" thing must be! Could *Pong 6D* be the killer app for Banshee? That's gotta be it! Banshee must have full hardware support for Amiga emulation, as well as a slick "polygon emulation via sprite cubing" pipeline. Now that the secret is out, I expect **Next Gen** to be the first mag to publish Banshee specs ... how many million sprite-cubes per second can Banshee do?

Kudos to **Next Generation** for bringing us the scoop on this remarkable gaming achievement! I

can't wait for this game ... I'll be first in line at Egghead Software to buy it!

Joe Befuria
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P.S. I laughed my ass off at that special report! See, some of us do actually browse the CD to see what's there!

Just a way for the NG staff to blow off steam on our final CD. Speaking of which ...

I have been a devoted reader of the magazine and web site since their respective inceptions. I am a huge fan of both and commend everyone involved for work well done.

I was, however, disappointed to learn that the **NG Disc** would be discontinued after the May 1998 edition. While I agree that most of the material on the disc is freely available online, I still found the disc to be an excellent resource because it compiled all the information in one easily accessible source. Also, demos and video previews seem to be getting larger and larger (a trend that I'm sure will continue), and the thought of 30MB downloads is not appealing. It is simply more convenient to have such large files on a CD. I hope you will reconsider, at least to the point of occasionally (perhaps quarterly) including a CD with timely demos and video previews.

I applaud your decision to kill the NG Disc. A magazine bundled with a CD was cool and exciting in the '92-'95 time frame, but with the increased bandwidth of 56K, cable, and xDSL modems, the disc is now unnecessary. Our landfills are still groaning under the onslaught of AOL floppies and do not need to be compounded with superfluous CD flotsam.

Howard E. Abraham
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Thanks for the comments. While we agree that the CD did have its advantages (especially for large

movies, for instance), we stand by our decision — it just didn't have enough advantages to justify the cost of continuing it. We are considering the possibility of future, special occasion discs for subscribers, as well as a couple of other multimedia options. In the meantime, however, we hope you enjoy the expanded coverage that discontinuing the disc has enabled us to deliver. Also, since **Next Generation Online** has implemented our video production workstation, expect to see more streaming video interviews on the site somewhere within the next few months.

Something about **NG 40** caught my eye and got me thinking — this "something" being the illustration on the cover of the CD, which featured a very well-drawn image of Aya Brea, the heroine of *Parasite Eve*. However, well-drawn though it may be, it certainly is provocative. I mean, I might be wrong, but I don't suppose her posture, build (ahem!), or clothing were selected to promote the title's gameplay. Unless, of course, those eerily similar Calvin Klein ads really meant to give us an idea of the quality of the clothing

Now I know **NG** didn't conceive or draw that image in particular (the artist was that very gifted Tetsuya Nomura fellow), nor do I find it to be especially offensive. But, given the fact that **NG** has (correct me if I'm wrong) very openly taken the stance that the portrayal of women in the industry is, in general, unflattering and should be bettered, certain factors such as this one should not escape your attention.

And there are numerous other ironic examples. For instance, in **NG 37** (the very same issue where you first more seriously addressed the so-called "girl trouble") we find in the review of *Dead or Alive* (page 133) that one of the two photos of the game is of the female fighters in their kinky outfits, one of them blundly showing her unclad derrière to the camera, with the caption reading: "Unlocking the game's numerous secrets makes the end product so much more interesting."

Closing the very same issue, there on the back cover is Nikki from *Pandemonium 2*, prominently displaying that very bosom that was on page 101 referred to as, "... a plunging cleavage that even Pamela Anderson would have difficulty comprehending."

These examples may be, in the grand scheme of things, little details, and certainly I'm not accusing your publication of outright hypocrisy or anything similar, but again, I thought bringing this to your attention would serve you well because avoiding these slipups would certainly help you support your "valued female readers."

Incidentally, I'm a male, and no, I'm not gay, but I don't easily get turned on by polygons and do not look forward to the day when bra sizes are measured in "Gouraud-shaded triangles."

Pedro Brtiz Monasterio
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Aw, go ahead and call us hypocrites. You know you want to, and, we admit, maybe it's not entirely undeserved — in a similar vein to, say, Entertainment Weekly doing a feature on, "Why are there no good roles for women?" in the same issue with Sandra Bullock or Heather Graham pouring in a tight T-shirt on the cover.

Although, for the record, it isn't the fact that many female videogame characters have sex appeal that we object to. Rather, it's the sad fact that for so many of them, it's their single defining characteristic.

Retroview

Pong comes home

In 1974, an Atari engineer named Harold Lee suggested making a home version of *Pong*. It turns out that his timing couldn't have been better.

The team that designed the home version of *Pong* included Lee, Bob Brown, and Al Alcorn, Atari's first full-time employee and the engineer who designed the original arcade game. In typical Atari fashion, they named the chip they were designing "Darlene" in honor of an attractive female employee.

The first *Home Pong* prototype looked similar to the final product, with one major exception — it was mounted on a large wooden pedestal. As it turns out, the pedestal was not there for looks. Alcorn, Lee, and Brown built the prototype using wire raps instead of waiting for a chip — in fact, there was a tangle containing thousands of wires inside that hollow wooden box.

It did not take long for Alcorn and his team very long to discover that building *Home Pong* was easier than selling it. Toy stores did not want to carry it because it cost more than $29, and as one retail buyer said, "Other than bicycles, we don't carry anything that costs over $29."

After a long, frustrating time trying to sell *Home Pong* to toy and department stores, somebody noticed that Sears had sold the Magnavox Odyssey out of its sports department. As a last-ditch attempt, an Atari executive named Gene Lipkin called the Sears Tower in Chicago. An operator placed his call through to Tom Quinn, the man who purchased equipment for the sports department.

The guy [Quinn] had done really well the year before on *Ping-Pong* tables. In the winter, *Sporting Goods* would sell some hockey equipment and a few basketballs and that was about it. To make his Christmas numbers, the Sears buyer was focusing on *Ping-Pong* tables and pool tables, and he thought consumer *Pong* might be just the thing for the family rec. room.

— Nolan Bushnell

Quinn only expressed a mild interest in

Home Pong over the telephone, but he asked if he could have a look at it the next time he came to California. Three days later, he showed up at Atari at 8 a.m., long before Bushnell or any of his executives arrived. After seeing a demonstration, later that day Quinn decided to recommend *Home Pong* to his boss.

The last step was presenting *Home Pong* at an executive meeting. At Quinn's invitation, Alcorn and Lipkin flew to Chicago to make the presentation. The meeting was held in an enormous conference room on the 27th floor of the Sears Tower.

Large as the room was, it was packed solid with executives who were curious about the new device. Alcorn attached the prototype to a television and turned it on as

It did not take long to discover that building *Home Pong* was easier than selling it

Lipkin prepared to explain. Nothing happened. The prototype did not work. The Sears Tower, the largest building in the world at the time, had its own television station, which broadcasted on channel 3 — the same channel the prototype was set to use. It didn't take Alcorn long to figure out what had happened, and he quickly removed the bottom of the box and began rearranging wires to reset the prototype to work on channel 4. However, the executives that had come to view the product became agitated even though it only took Alcorn a few minutes to make the change. Even after Lipkin made his usual sharp presentation, the audience still seemed concerned. But Alcorn knew what was wrong — they were concerned about all of the wires. This was, after all, 1974.

People did not understand about chips, and the wires must have looked unstable to them. Alcorn tried to reassure those in the room.

I said, "We'll replace the wires with a silicon chip that's the size of a fingernail."

Carl Lind, the head of the department, said, "Mr. Alcorn, you're telling me that you're going to reduce that rat's nest of wires to a little piece of silicon the size of your fingernail?"

"Yes, sir."

He looked at me, leaned over the table, and said, "How you gonna solder the wires to it?"

— Al Alcorn

Sears decided to sell *Home Pong*, and the game set a unique record for the company. Sears executives calculated success of the products in their catalog by measuring the amount of page space they gave products and matching it with the amount of dollars it grossed. In 1975, *Home Pong* had the best inches-to-dollars ratio.

The previous record holder was Adidas tennis shoes. We blew that record away in total dollar volume. We also won the Sears Quality Excellence Award — something nobody knows or cares about, but they're pretty proud of it.

— Al Alcorn

Al Alcorn and the original prototype of the home version of *Pong*, a game he managed to get Sears' sports department to sell

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Next Month

Beyond the expected

When publishers' fears keep developers from dreaming outside the lines of specific genres, the game market becomes stale — fast. Fortunately, Sierra has funded Relic Entertainment's new project, *HomeWorld* — and breaking the rules never looked so good

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Hey, bear tracks.

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